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THE PALINDROMIC BLONDE by Bill Wesley



THROUGH OTHER EYES by R. A. Lafferty

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# FUTURE SCIENCE FICTION

No. 47 February, 1960

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# The Lunar Lichen

Novelet

by Hal Clement

If Ingersoll were telling the truth, he had indeed made a radical find, here on the moon. But Dr. Imbriano had doubts, and the destruction of the samples made him wonder even more if the geologist were trying to perpetrate a hoax. But...if so, what was Ingersoll's motive? And what would his next more be?

INCHEN looked out and down from the observation port, watching the suited figure absorbed in its task about the trailer. He watched until the big number stencilled on the suit became visible, and he could be

sure of the worker's identity; then he turned abruptly to the men seated behind him. His eyes sought out one of these.

"You admit they were—and are—alive." It was more a statement than a question. Imbriano took it so.



Ingersoll had gone out alone in the tractor, and the question was: what was he up to?

"They are."

"And you don't recognize the species."

"I don't—but that's..."

Kinchen raised a hand impatiently.

"I understand that you don't know by sight every fungus, lichen, or what have you that's ever been described. You can, though, recognize classes. And you think you recognize this one as belonging to whateveryou-call-it.." "
"Hysteriales. And that's

not..."

"Never mind. I didn't mean to get technical about orders and phyla and whatever you call them. I'm no biologist. The point is—or I think it is—that you used fairly gross characteristics for identification, and such characteristics might very well be duplicated by parallel evolution. Right?"

"That's true"

"Very well, then. Will you tell me why, except for a natural reluctance to believe there's any life at all on the moon, you feel so strongly that Ingersoll is pulling a Piltdown on us? Don't you like the fellow.or what?"

JACK IMBRIANO hesitated, and frowned.

"It's true that I don't like him very much," he admitted finally, "but I don't think that's what had given me the idea. It's the whole set-up. He came back from a trip, which he'd made alone, well past our normal exploring range with these specimens of lichen-or pseudo-lichen if you prefer. He had taken pictures of the site, but he says he took them after collecting the specimens, and the pictures certainly don't show any of the plants. They hardly could, of course, since the plants themselves are so small. He objects to going back to the site to find more..."

"He didn't object. I did,"
Kinchen pointed out. "We have
just so much working juice for
ground travel, and Ingersoll
used too much of it as it is.
We could draw a little from
the main tanks, but I don't
want to cut our return allowance too fine."

"All right, you objected. But he also said there was no use going back, because he'd collected all he could find in the vicinity. That's ridiculous, on several counts. First of all, they're so small he couldn't be sure he'd found all that were there, any more than you pick all the raspberries from a patch the first time through. Secondly, he shouldn't have done it. Even a geologist leaves some of his material in site so that his work can be checked. as a standard working procedure. Under the circumstances. I want to go back to that region and hunt for more of what he found-if he found it."

THE DIRECTOR pondered for a minute or so.

"Your point is well taken, but the fuel question remains," he said at last. "We can do it, of course, though it means cancelling some other part of the program. Aren't there any more checks you could make right here, first? How about the rock the stuff is attached to? Don't lichens have some effect on the stuff they grow on —stick roots into it, and so on? How about checking that with the microscope."

"Lichens don't have true roots..."

"Stop quibbling. They keep from being blown and shaken off rocks and trees somehow."

"You're right—but these were growing on the dust layer, according to Ingersoll. He brought some of the dust with him, but it's not possible to say whether or not it's the original substrate of the plants."

"Well, if, as you imply, he brought them from Earth with him, there should be traces of Terrestrial soil mixed in with the things. Can't you identify that?"

"I can't. We have geologists here, but who thought we'd need a soil specialist?"

"True enough. All right how about this? Put some of the plants outside, and see whether they live, and grow. You say they're alive now."

"They seem to be—as nearly as one can tell with a lichen. There is protoplasm, or something like it, in their cells. And it shows streaming at times."

"Then do what I suggest.
Ask Ingersoll whether he found
them in full sunlight or in shadow—so he can't say you didn't
reproduce conditions properly

-put them out for a few hours, and see what happens."

"A few hours wouldn't produce detectable change in one of our lichens. Most of them take years to do much growing, as I remember."

KINCHEN chuckled. "I'm just an astronomer and ballistics engineer," he said, "but I'll bet that a few hours of this environment will do something detectable to any Terrestrial life form, If that thing is still alive, after a few hours outside, then it's genuine -whether it shows any growth or not. I know people have talked for years about lichenlike growths being possible here, but I never heard a competent man say that actual Terrestrial lichens themselves could stand it. They'd be cooked, irradiated to death. and desiccated in a matter of minutes, and you'll have a hard time convincing me otherwise. That's why I doubt that Milt could possibly be trying a fake. He'd know there are too many easy ways to check on him."

"Why would he know it? He's just a geologist," "Why would I know it? I'm just an astronomer. I don't see how anyone sharp enough to make a name for himself in any one science can be completely ignorant of the rest."

"But Ingersoll hasn't made much of a name, even in his

own profession."

"Then how come he's with us here?"

"How come I'm here? I passed a Civil Service exam."

"Hmph." Kinchen might have been impressed; it was hard to tell. "Get on with your check, anyway. If those things stay alive outside, I'll authorize another trip to the place he found 'em--where was it? Other side of Short, somewhere, didn't he say?"

"Right." Imbriano was already on his way down the hatch from the "main" deck.

At an observation port beside the main airlock there was a microphone, which was tied to the suit-frequency transmitter. The doctor snapped it on. "Milt? You read me?"

"Clear enough. What is it?" Ingersoll's voice came back instantly.

"I was wondering whether

you'd found these plants in sunlight or shadow. It's a rather small sample, and it occurred to us that if we put some of them back outside planted 'em, you might say we could grow more before we have to leave, and learn more about them at the same time."

66 SEE." THERE was a pause, and Imbriano won-

dered whether the other was pursing his lips in his usual pontifical manner when asked a question, or trying to decide what answer would suit the situation best. "They were in sunlight when I found them," he said after a moment, "but I can't remember whether they were in spots which had been out of shadow for long, or not. None of them was very far from some sort of shadow-but of course nothing is, in this part of the moon. It's as rough on a small scale as it is on the large one of astronomical photographs."

"That's, true." The doctor was suspicious of the answer it sounded like hedging to him. Of course, almost any other answer would have been equally

suspicious, and Imbriano might have been broad-minded enough to admit this if someone had taxed him with the idea.

"Certainly they'd been in the sun for hours, anyway, and maybe days," the voice from the radio resumed. "I guess your stunt is worth trying, From what little I know of lichens, though, they won't do much in the few hours the simple will be in the sun. Remember, we came down just about south of the central peak of this crater, and we'll be in its shadow before long."

"That's true. Well, the few how will do for an initial test —maybe I'll be able to find out how the plants keep from drying out in this pressure and temperature, anyway. I'll be out shortly."

Imbriano broke the connection without waiting for an answer, and went back to the main deck. The specimens were on the small table which served him for a laboratory. He had distributed them, together with the lunar dust which had been brought in with them, over several plastic Petri dishes. He elanced over these, picked up

two which seemed to have healthy cultures in them, and carried them back down to the air-lock deck. There he suited up, tested his gear, picked up the dishes again, and went through the air-lock.

Getting down the ladder with his burden took some skill, the gripping attachments of the suits being what they were, but he managed it at last. Ingersoll's suited form was fifty yards away, still working over one of the tractor-trailer combinations; he did not seem too interested in the doctor's work. They exchanged a brief word over the suit radios, but the geologist did not leave his job.

IMBRIANO looked around for a suitable place to expose the specimens. The neighborhood of the ship was littered with gear which had accumulated during the five days of their stay so far. Some of it was apparatus which would have to be returned to Earth; some, like auxiliary fuel tanks, was doomed to stay on the moon. He thought of setting the dishes in sunlight on top of one of the tanks, where it

could easily be found again; then he remembered that the radiation equilibrium temperature of the polished metal was a good deal higher than that of the lunar rock, and he would hardly be duplicating natural conditions.

He finally selected a spot about thirty yards north of the ship, a small open area floored with the omnipresent lunar dust, set the dishes down, and removed their covers, He watched them for a minute or two; they showed no visible change, and he finally turned back toward the ship. He was startled to find Ingersoll just behind him, though he certainly shouldn't have expected to hear him coming.

"Hello, Milt," he greeted the geologist. "Does that seem an adequate replica of their growing conditions? You said they were on dust when you found them."

"That's right. I don't suppose the dishes will make any difference. Why did you have covers on them, before?"

"The general idea is to keep foreign spores from settling in a culture. I was reasonably careful about that, and of course there won't be too many drifting around in the ship anyway
—they'd have been cycled through the purifying plant too 
many times by now. I suppose 
that spores from the algae in 
the plant itself might be loose, 
but I don't think the danger's 
very great. Anyway, if your 
specimens have been contaminated, they're getting well 
sterilized now."

"How's that?"

MBRIANO gestured around them. "This environment. Temperature and pressure would combine to dry out any Earthly life form in minutes. Creatures which formed spores might have time to do so, but the spores would die of ultraviolet irradiation quickly enough-no Terrestrial life has natural immunity, as far as I know. Those of us who can take it do so by virtue of a relatively opaque protecting layer of dead tissue. That's one thing which interests me enormously about your plants-they must obviously have some other protection, or else a genuine immunity to ultra-violet light.

That's why I want to grow more of them. There aren't enough now to spare for experiment. They're amazing enough things as it is."

"How come?" Neither Ingersoll's voice, nor the face which could be seen inside the helmet, seemed unduly perturbed by the information which the doctor was deliberately providing.

"How come? Because even though they're adapted to the moon, they survived the pressure and oxygen concentration inside the ship. They were definitely alive when I examined them in there microscopically."

"Hmm. That is funny, now that you mention it. How do you account for it?"

"I don't yet, With more information, I suppose ideas will suggest themselves. I'll bring one of these dishes in just before the shadow of that peak reaches us, half a day or so from now, and leave the other one out to cool down in the dark. I'll settle on when to bring it in after I've examined the first one. That seems like a sensible program?"

"I'd say so. Let me know what you find out, will you?

I'm a bit curious—after all, I found the things."

"Don't worry. It will be remembered to your credit." The doctor wondered whether he had worded that answer badly, but Ingersoll gave no evidence of thinking the remark at all edd. He turned with Imbriano and started back toward the ship.

"Finished your work?" the doctor asked.

"Not yet. Can't stay in a suit forever, though. It'll be nice to get back to a place where they can spare air for smoking."

Imbriano chuckled. "It isn't that we can't spare it, but that the algae in the 'fresher are too sensitive to tobacco smoke. If you really want fame, breed a variety with comparable photosynthetic efficiency which can stand a few impurities of that sort. The submarine boys will probably give you an honorary commission." The conversation broke off here, as climbing the ladder to the air lock took too much of a man's attention for other matters to intrude.

THE TWO reached the main deck together, so there was

no opportunity for those already there to ask the questions they would have liked; but the doctor made the general situation clear easily enough.

"We put the dishes out in the sun, and I'll bring in the first one just before the shadow gets here. Until then, I guess there's nothing to be done."

"Listen to him!" groaned one of the men. "Nothing to be done! Whoever planned this junket 'accounted for every minute of every man's time—except, of course, that of the good old M. D. I see him sitting around a good deal."

"You don't look too occupied yourself, Tick," retorted Imbriano. "That chair you're in seems pretty comfortable." This remark left him wide open, since all the "chairs" we're bucket-seats fastened firmly to the frame of the rock-et. The crewman ignored the opportunity, however.

"Tm sitting," he said, "because it's easier than standing while my suit tanks get charged. I brought in a trailer load of specimens half an hour ago. Al and someone else immediately refuelled the tractor and took it out again with a different trailer. As soon as my suit is ready—and I've had a chance to digest the sandwich I just ate—I'll get into my suit again and, with such help as I can get from anyone whose time isn't planned, I'll unload and catalogue the said specimens. If I should finish that before it's time to sleep..."

"All right, you've made your point. I'll help with your cataloguing, if it doesn't take any more knowledge of mineralogy than I possess, and if no one develops a cold I have to treat in the meantime."

HO'S BEEN sick so far? It's disgusting, how some people get paid for their vacations. I'll use your help. It doesn't take any brains."

The conversation wandered from that point, and both talk and labor bore little relation to the Ingersoll discovery for some hours afterward. Most of the time, the people were outside; all the work, or practically all of it, lay there. Even the physical measurements which did not actually demand sam-

ples of the moon were usually better made away from the metal of the hull. One man always remained aboard, as a safety measure, but this duty was taken in turn.

Tractors and trailers came and went; the trailer system permitted almost continuous use of the powered vehicles. The trailers were light affairs, having three pairs of very low-pressure balloon tires, with interchangeable bodies. They could be used for hauling equipment or specimens of virtually any sort; and of course at least one always carried "fuel"—working fluid for their nuclear turbines.

Theoretically, one tank of the fluid should last indefinitely, since the turbine exhaust was condensed and recycled; practically, there were always losses—the fluid was ordinary water, which was ordinary water, which was decomposed quite rapidly in the reactor. Also, occasional use of "emergency power" demanded a cycling rate greater than the concensers could always handle, since they could only get rid of heat by radiation. At such times automatic valves opened

the condensers briefly to "outside", and fluid would be lost. One trailer tank could usually be counted on for three or four hundred miles of ordinary travel, but no one took the figure too much for granted.

There were pairs of investigators radiating in all directions about the crater. The central peak was receiving particular attention: it was one of the highest on the moon, a peculiarity of Moretus, and central peaks in general were still being used as ammunition in the perpetual fight between the meteoriticists and the endogenecists over the question of Lunar crater origin, A topographic map of the crater, with five-foot contour intervals and complete geological information on what underlay the contours, was the group's aim: while the mapping itself would not be done on the site, a fantastic amount of measuring had to be. The photographic technicians had hardly been seen since the landing; they had been eating and sleeping in their laboratory, which had been set up in one of the used fuel tanks away from the ship.

As a result, not even Jack Imbriano gave a thought to the lichen specimens or even to his ugly suspicion about Ingersoll, for a good many hours. When he did, the recollection was forced on him; the shadow of the mile-and-a-half-high central peak was nearing the pillar of the rocket, and most of the teams were coming in-the first time since the start of the project that so many had been in together. Recalling his plan for the plant specimens, the doctor suited up and went after them himself-he was not going to let anyone else touch them.

Unfortunately, he was a a trifle late. It was a little hard to identify the remains of the Petri dishes and plants in the layer of dust where they had been left, and which had subsequently been traversed by the treads of one of the tractors.

### II

MBRIANO stood and thought. True, he had not put up a flag, or issued any other general warning to the crews about his little experiment; that he had to admit. On the other hand, the spot was unusually close to the ship, and the changing of trailers was usually accomplished in one area a little distance away. It was not impossible-for an objective mind, it would not even have been unlikely-for a tractor to cross the spot, but Imbriano was suspicious. He raked through the dust once more, seeing a few fragments of plastic glint in the sunlight, but found nothing clearly recognizable as part of one of the plants; and with a frown behind the face plate of his helmet he turned and headed ranidly for the ladder.

On the main deck, six of the ten members of the expedition were waiting when he arrived. Most of them were unconcerned, enjoying one of the rare periods of relaxation—Tick Wesley had not been exaggerating about the constant occupation of the group. The missing three were a pair of petrologists who were "chasing" the shadow, trying to get measurements of any spalling effect from the quick cooling and heating as it passed, and the stratigrapher,

Milton Ingersoll. Kinchen was watching the hatch, evidently for the doctor's arrival; and the whole group fell silent at the expression on the newcomer's face.

"What's the matter, Doc? Someone catch cold and put you to work?" Detzel, fuel system expert who doubled as tractor operator while not in flight, put the question. Though only a few of the group had heard the doctor's suspicions about the life discovery, he did not take time to explain in detail, but addressed Kinchen directly.

"The specimens I had out are gone. Someone drove a tractor over the site."

"Accidentally?"

"It wouldn't know. I'm afraid I didn't mark it." He went to the port overlooking the site of his misfortune, and pointed down to the tracks, clearly visible in the dust. "Does anyone here remember crossing that area—making those particular tracks—in the last twelve hours? Judging by their loneliness, it's only happened once. I should think you'd remember."

THE REST of the group crowded around the port, and one by one denied having driven over that spot. All of them were certain; all were able to describe their work of the last half day in sufficient detail to show that their memories were trustworthy. As the evidence came in, Imbriano glanced more and more grimly at Kinchen.

"I think Milt will have to do some explaining," he said at last. "He knew that I put the stuff there—saw me do it, and talked to me about it. Where is he now?"

"I'd still go easy on demanding explanations, Doc," the leader answered. "Remember, it's his own discovery you're accousing him of destroying, to put it at the very least. What you're really claiming, I don't like even to think. I admit that sort of thing has happened, but I still can't believe that Milt could possibly be so—well, unbalanced, as to try it. Will you please be careful if you must discuss it with him? Or better, let me do it?"

Imbriano frowned. For a moment, he was on the verge of asking whether that were an order, but he was adult enough to realize that the question would not make matters any better.

"All right, Ray," he said,
"Please try to find our, though.
This business has wasted
enough of our time already."
There was a faint chuckle
phrase "our time," and the
doctor started to whirl around
with a hot remark on his lips;
but once again he got the better of his emotions, and said
nothing. Kinchen tried to fill
the awkward gap.

"Why don't you put out a couple of more plates, while Milt's away? He won't know anything about it, and you can find some spot a little farther from the ship where accidents won't happen."

"All right." The doctor stepped across the deck to the table which was considered his private domain, and then spun to face the others, fury showing plainly on his face.

"Unless someone has a really original sense of humor, there's been another accident," he remarked, keeping his voice under much better control than his features. "The dishes with the lichers are gone I'll be as objective as I can, to keep our good commander happy, so I'll start by saying—this is far too serious for a joke, practical or otherwise. Did anyone borrow, or otherwise remove, from my table here, six Petri dishes? Each containing some rather crumbly—looking bits of lichen?" There were no answers for a moment, then a collection of negatives. Imbriano looked at the commander. "How about it?"

KINCHEN was extremely ununcomfortable ever since the doctor had first hinted at the possibility of a Piltdown on Ingersoll's part. There was no point in delaying the issue by asking questions about opportunity: Ingersoll had served his turn on watch, alone in the ship, for more than an hour since the dishes had been set out. He could have done it. Why he should have was not quite so obvious. The astronomer thought for a moment, wishing as he did so that he been able to come as an as-

tronomer rather than 4 leader of men, which had never pretended to be. He finally began asking questions.

"How many of you heard directly from Milt of his dis-covery of plant life?" was his first question. The doctor started to say something, but closed his mouth again. Kinchen glanced at him. "I'm not changing the subject or postponing the issue, Doc," he added quietly. "How many, please?" Four hards went up.

"How about you, Al? Did you hear about it at all?" Kinchen asked the only one who had not responded—the doctor had made no move, but the answer was already known in his case.

"Bill told me," Detzel answered. "I was asleep when Milt came in. I had the impression he was telling everyone, and had just missed me by chance." The commander nodded.

"So we all knew it," he said slowly. "Then Milton knew about Doc's test, since Doc carefully told him. And he knew, furthermore, that the test would show up any

Terrestrial organisms. If he were actually trying to pull a Piltdown, what would he do?"

"Destroy the evidence, first of all!" answered the doctor promptly. Kinchen looked at him thoughtfully.

- "What good would that do?" he asked. "We all knew of the discovery. If we knew it was faked, then..."

"But, in a way, we don't know—or, at least, you refuse to admit that it's proved. And you're right, of course. With the specimens gone, there's no proof. We could never even make the charge."

4 IF THAT were all, I'd be quite relieved," Kinchen replied. "However, if he had really done this, and then destroyed the specimens, the fact would be bound to come out among us almost immedi-

fact would be bound to come out among us almost immediately. Either he'd make no more mention of the discovery, which would be a confession in, itself, or . . . "
"Or he'd be as surprised and

"Or he'd be as surprised and disappointed as anyone at the disappearance of the specimens, and insist that some enemy had done it to ruin his reputation. And how would we prove differently?" cut in Imbriano. Several pairs of eyes met as their owners considered this aspect of the matter.

The commander was silent for some moments, "I must admit I hope that's what happens," he said at length.

"Why, for goodness' sake?" snapped the doctor.

"Because then I will simply send two or three pairs of searchers to the area where he claims to have made the find, and really cover it. If we find more similar specimens, well and good. Milt's charge will have some stuffing-but personally I'd be inclined to keep the matter quiet. If we don't, then we just keep quiet about the whole thing, and Milt is deprived of discovery rights. He can submit his report, but he'll be taking his chances on belief, of course. What's happened to the specimens is certainly unbelievable. That would get the whole thing out of my hands, where I'd much prefer it to be. If, on the other hand, he's sufficiently unbalanced to feel that he's given himself away completely to us—this is now assuming that he's really guilty— I see two courses of action open to him."

"And those are?"

"To kill himself, literally or figuratively—that is, actually destroy himself, or go back to Earth with no reputation, which I for one would find trouble doing—or kill us." The last phrase came so abruptly that no one grasped it completely for several seconds. Then there was a babble of voices.

"He couldn't" was the concensus which made itself most clearly heard after the first few seconds. With that comforting thought, the noise died down; but Kinchen shook his head slowly.

44 YOU'RE wrong. He could.

Have you really failed to grasp how completely each of us has been alone in the ship time and again. Each of us has been alone in the ship time and again. Each of us has been in complete charge of food, drink, air, and the transportation back to Earth. You know as well as I that one man could fly this bucket home. Take-off the this bucket home.

orders are already in the tape, the only variables of noticeable magnitude are due to libration, and those are small 
enough to be handled by remote control from the computers on Earth—as they were 
planned to be handled. Your 
need for me ended when we 
touched down here. This machine could be started for home 
at any minute, by any man, 
and make it."

This point was digested in an even deadlier silence. This time no one looked at anybody else.

"I think that's one possibility we'd better dispose of right now." The quiet voice which broke the silence was that of Tick Wesley. "There are three obvious means of gettine rid of us. granting that he wanted to. The food, the drink, and the air. Let's check them. Doc, you'd better find whether any of your drugs are missing."

"That won't take long," Imbriano answered. "Just a moment. You might as well hold off on the other checks. If there's nothing missing, there's not much he can have done to food or drink." The check of his medical supplies took a-scant five minutes, and was encouraging. "All accounted for," he said at last. "Better check the air plant, though I don't see what he could do about that without involving himself in the result."

DETZEL and Wesley examined the intricate little
pump-and-tank a ss e m b l y—
more intricate than seemed necessary at first, since it had to
ubbble air into water and get
it out again in free fall as well
as with weight to keep the liquid separate—but could find
nothing. The lights were sound,
the circuitry intact, the algae
healthy. They returned with
this news to the others.

"Then as far as we know, Mit is sincere," Kinchen said with visible relief. "And I can't believe he'd be idiotic enough to leave without taking care of us in some way, after what Doc told him..." Several of the others were shaking their heads, and be remembered. "That's right. There's still the path of straight denial open to him. But that's all right—it's the one I'd like best to have him

take Frankly, TII be happy as long as there's reasonable chance of his innocence, no matter what unpleasant possibility that will imply about someone else. Let's forget this for the moment and eat. The shadow will be past in a few hours—we're pretty close to its tip—and there's a lot of work to be done."

"Ben and Hans are coming in with their tractor," someone called from one of the ports. "Better get food ready for them, too. They'll be hungry."

"All right." Frake, whose turn it was to get the meal, disappeared toward the galley, several decks below the air lock level.

"I still would like to know where Milt is and what he's doing," remarked Imbriano, "I thought it was customary to check with someone—no matter who—before going out, in the interest of safety.

Kinchen shrugged. "He didn't, but he's gone. That is, unless a gremlin made off with one of 'the tractors. He didn't tell us on the other trip, either, remember. I nearly had heart failure when he didn't turn up

for fifty hours and I didn't have the slightest notion which way to search. I suppose he'll be back with another discovery." The doctor glanced at him, but made no comment on this closing speech. Perhaps he might have, but he had no chance.

## A VOICE came echoing up from the lower levels.

"Commander! Doc! Everyone! Come here!" The voice was that of Frake, and there was quite a jam at the hatch before the six men who rushed for it got themselves sorted out Imbriano was first out of the tangle, Kinchen last, By the time the commander reached the galley deck, everyone else was staring at what Frake had to show. This, as it turned out, was practically nothing-a fact of some interest, since it should have been their food supply.

"We're—we're cleaned out!" Frake said. "There isn't a day's grub left, for the lot of us. How, and where, did it go?"

"Search the ship!" was Kinchen's instant order.

"That will be a waste of time," predicted he doctor, "He could have moved it out with no trouble at all. Instrument and data containers have been going in and out the airlock in a steady stream, practically all the time. None of us would notice the details of anyone else's gear, any more than we notice in particular when someone takes off with a tractor to do his part of the job, We've been too busy to pay attention to other people." There was no humor at the "We" this time.

"Make the search, anyway," the commander repeated. "Everryone but Doc, and Al." The others scattered, their faces serious; the two who remained with the astronomer were even grimmer.

"What is it, sir?" asked the engineer, when they were alone. "You wanted me for some special reason."

"Yes, Al. Taking our food was pointless, unless something else was done, too. Remember we could get to Earth in a hundred hours. Check the power plant—every cubic centimeter of it that's not too hot to be touched. I'll bet you find something before the rest do," he added rather grimly. Detzel nodded, and disappeared downward. Kinchen turned to I mb ri an o, and eyed him thoughtfully.

"As you say, Doe, I'm a hard man to convince—or didn't you quite get around to saying it? No matter. You seem to be right, Now we'll have to figure out where he is, catch him..."

"Why catch him?"

"I'm sure it will turn out he's taken some essential part of our flight equipment with him, to prevent our simply heading back for Earth and leaving him behind. I'll admit he may be unbalanced, but I still can't picture him as a moron. Wait and see—there's not too much point chasing him until we know what we're looking for."

### III

ERY LITTLE happened in the next hour.
The two men who had been seen approaching came in, and were told of the state

of affairs. They had nothing to contribute; they had seen ncither Ingersoll nor the missing tractor. No trace was found of the missing food.

Neither of these facts surprised the commander in the least. One which did, however, was Detzel's failure to find anything whatever wrong with the reactor or any of its auxiliary gear. So far as he could tell, they could have strapped in and left the moon on ten minutes' notice. Kinchen was sightly tempted to do it, but his eternal uncertainty kept him from acting. He thought for a while, then ordered the group to make a check on which trailers, and what kinds, had gone with the tractor presumably containing Ingersoll.

This was a c c o m p l is h e d quickly enough, and the conclusion reached that the fellow must have made off with what amounted to a freight train. Four of the heavy-duty trailers had disappeared, in addition to the extra "fuel" carrier. It was easy to see where the food must have gone. It was less easy to see what, other than abandoning the man on

the moon, was to be done about it. The group gathered around Kinchen, hoping he'd come up with a decision but quite willing to express ideas of their own if asked. The commander did his own deciding, this time.

"We give twenty-four hours to a search for Milt, with the object of bringing him back if at all possible. We have just one tractor for the purpose. Those who don't go on the search will wind up their various jobs as well as they can without long distance transportation. Volunters for-the search?"

"I'll go!" Imbriano said emphatically. "I'll probably be needed, anyway."

"Maybe—though I hadn't heard you were a psychiatrist. Vour're probaby right about going, though, Let's see..." he glanced over the raised hands. "Al and Bill, you go with Dr. Imbriano. Do your best to catch Milt without hurting him. It seems important to me that we find out whether this has been caused by something about the moon, whether on tyou care about Milt him-

self. Try not to get yourselves hurt, and for Pete's sake don't get both tractors crippled a hundred miles from here. There must be a limit to how far a man can walk in a space suit, even on the moon, but I'd rather not collect data on just what it is right now. Al, before you go, could you turn up the heat a trifle? This ship is getting positively chilly."

"It's been that way for some time," Frake remarked, "but I didn't like to say anything." "What do you expect, in the

shadow of a mountain on the moon?" Imbriano asked, with a slight trace of superiority in his tone.

"I'd expect to be cold," Frake said calmly, "but your crack seems irrelevant. We've been in shadow only about ten minutes, and I've been cold longer than that. Maybe it was psychological."

"Save it!" snapped Kinchen.
"Al, run up the main thermostat as I asked. Then get suited
up with Doc and Bill and get
going."

TWENTY minutes later, the tractor was rolling. There

were two clues to follow; occasional tracks in the dust, and the likelihood that Ingersoll would take his former course, which he had mapped and reported—truthfully, they hoped.

For some time, at least, the two sources of evidence agreed. It seemed likely that the fugitive would be forced to travel slowly, since he was carrying a long train of trailers. These would not only be a heavy load for his turbine, but might also prove a maneuvering problem if he got into any tight spots. If this proved not to be true. catching the fellow would probably be impossible: he had quite evidently taken an extra supply of turbine juice, using for the purpose the only spare carrier adapted for the stuff. If the pursuers did not sight him before reaching their range limit, they were out of hiele

Sighting the other vehicle was also likely to be a problem. In full sunlight, of course, the metal would glint and be recognizable over yast distances; but in shadows, where the oaly illumination was reflected light from the surrounding peaks, the problem was different. They carried a snooper—an infra-red viewer intended to help map the crater in terms of equilibrium-temperature variations as a clue to dust depth and petrological differences, but its field was narrow. Detzel used it on every deep shadow they passed, while Frake drove and Imbriano used his eyes; but no sign of the other tractor appeared, except occasional tread marks.

THEY WERE heading south and a trifle east (not the selenographer's east, but left of south) toward a spot where a small crater breaks Moretus' southern rim, Here, according to Ingersoll's report, he had found a pass out of the walled plain which was possible for the tractors. The pursuers reached the area in a reasonable time, and found no difficulty in tracing the path, though there was no way of being sure whether the tracks had been left on the original trip or only a few hours before. The driving was hard on the nerves; grades were steep along the way, and steeper to either side. They eventually reached the top, skirted the five-mile crater, made a last radio check with the ship, and were about to break line-ofsight contact with their friends when Kinchen suddenly interrupted Wesley's routine acknowledgement of their callknowledgement of their call-

"Al!" his voice came through clearly, with no attempt to cover its owner's anxiety. "We've found what was done to the ship. You may have to come back—listen. The upper manual safeties on the main tank were both opened—we can't tell when—and left that way. We don't know how much water we lost from evaporation, and we can't get the valves closed. Any ideas?"

Detzel snatched the microphone from the doctor, who had been handling communications.

"The tanks were completely full, initially. We never touched them on landing. With those valves wide, the water would have boiled—we should have felt the vibration if we were in the ship. It must have been done while Ingersoll was on

watch. Boiling water would spatter into the vents, and perhaps outside them, and as the evaporation pulled heat from it it would freeze. The valves are probably jammed with ice.

"You may not have lost much from the tanks, since a layer of ice would have formed sooner or later on the surface and cut down the evaporation rate. That must be what made the ship so cold-evaporation into a vacuum. I should think you could free the valves by melting the ice-you may have to do some improvising with electric heaters but it shouldn't be difficult. When you get the valves shut, keep the main thermostat up the way I left it. When the ship temperature really starts to climb, the ice inside the tanks will have melted and you can reset it to make the place comfortable. With liquid in the tanks, you can compute the amount of juice from the reading of any of the static pressure gauges-preferably Number One, the lowest. There's a table in my kit for turning pressure readings into quantity for that tank under various acceleration conditions. We'd better go on, it seems to me. Whether or not there's enough juice left to get us home doesn't make much difference in what we can do about it."

Imbriano interrupted. "Why go on, though? Ingersoll must have been raving mad to pull that trick. It would doom him as surely as it does us, if too much water really boiled from the tank. He's probably driven himself over a cliff or opened his cab with his helmet off by this time, anyway!"

NO ONE IN the cab really heard Kinchen's answer to this. It came through, but it came through mixed with another voice, It was a dry, clear voice, enunciated so perfectly that the words were plain even mixed with those of Kinchen, and clear enough to permit the mocking overtone's to be grasped. All three listeners got every word of it; none of them could remember a fter ward what Kinchen had been saying at the same moment.

"That sounds like our good doctor!" the mocking voice came. "The doctor who knows so much. The doctor who shouldn't really have come to the moon at all, since he knows so much about it—knows it hasn't any life, and knows it hasn't any water. Such a smart.fellow! And he feels sure I've killed myself, so that I won't have to starve on the moon like the others, because of course that dope Ingersoll could never find anything on the moon to replace water lost from the tanks! Oh, no!"

"Tell me, Dr. Imbriano, how do you manage to live with your own brilliance? Doesn't it overwhelm you at times? Of course, vou're right about one thing-vou ought to go back. You won't get to water with the fuel you have. I can wait, wait until you're gone, and fuel up my tractor and come back, and refill the ship's tank, too, And I can take off for Earth with a very sick group of friends, and they just might die en route, and be jettisoned in space, so no one could ever tell just what they died of. And maybe they were a little crazy, because they destroyed my life specimensdon't you think that's a reasonable chain of events, you selfrighteous, pompous, know-itall? Don't you?" Ingersoll's voice fell silent, and the men in the cab looked at each other.

"He's really gone!" muttered Detzel. "Plant life which I could and did swallow —but now water, which I certainly can't."

His attention was attracted by Kinchen's voice, asking why the tractor had stopped broadcasting. Evidently Ingersoll's waves were not reaching the ship, which was hardly surprising. Detzel extended the microphone to the doctor, so that he could explain what had happened, but Imbriano shook his head impatiently. He was obviously bothered by something, and didn't want his thoughts interrupted, so Detzel himself explained to the commander. Kinchen listened silently.

"If he's really out of range, you might as well come back," he said when the engineer had finished. "I wish those fellows who gave us all the tests before takeoff had been able to pick that up. We've lost one man, may lose nine more, and the project itself can't possibly be completed now. All that's over and above the fact that I liked Ingersoll."

DETZEL was about to acknowledge the order when the doctor held up a hand imperiously.

"Wait!" he exclaimed. "Can he possibly be out of range of the tractor yet, if we can hear him on the radio?"

"It's hard to be sure, without knowing how far from a straight line the ground will force us to go, but I'd say it was unlikely. Why?"

"Beacuse we'll have to get him—have to. He's not crazy the way you think. I'm no psychologist, I admit, but I think I'm I know what's wrong, and it's my fault. Sure, he's a bit paranoid—but I rode him too hard. If anything pushed him over the edge into this nonsense, it was the way I treated him—you could read that, in the way he was talking just now. I'm the one he's down on, and—well, let's not go into it. We've got to get him."

"I can't see it," retorted Frake. "What difference does the cause make? Even if you feel guilty, and want to rescue him, what difference does it make if he's killed us all? I don't blame you, but..."

"That's not it—at least, not all of it. Sure, I feel pretty rotten about what I've done to Milt, but that's not the whole story. He's not raving mad. He wants revenge on me. How can he get it unless he's telling the truth about the vater?

THERE was a moment of silence; then Detzel spoke.

"Either you're speaking from knowledge 'way outside my field, or you're filling in a graph with a lot of guesswork. or you're nuttier than Ingersoll," he remarked. "Just how do you get the notion of water on the moon? Every part of the blasted rock ball gets above the boiling point of water, or even what the boiling point would be at sea level on Earth. And the moon can't hold any gas with a molecular weight of less than about sixty. Hydrate minerals like gypsum form from the evaporation of salt solutions, and if the moon ever had any lakes or seas I'll drink an equivalent quantity as soon as it's proved."

"Never mind the cosmology," snapped Imbriano, "It's irrelevant. Ingersoll, remember, is a geologist. I don't think he's a very good one, and it's my own fault that I didn't keep that to myself. But he's not a complete dope and I never said he was. He claims, indirectly, that he's found water. He should be competent to know whether he has or not. If you don't want to stay on the moon to be discovered by the next expedition, then get back to the controls and start us along that trail once more. Ingersoll may be really crazy, but I'm betting he isn't. Give me the mike."

The engineer obeyed, muttering something about "wishful thinking," and started up the turbine. Imbriano called the commander.

"We're not coming back just yet," he said. "I can't explain why over the radio. Expect us when you hear from us." He snapped the microphone onto its hook with a gesture of finality, and settley back into his seat with an expression on his face which prevented either of the others from speaking. The tractor posed its way along the small crater rim and began to switchback down into the incredibly broken country between Moretus and Short. The trail was clear enough, here; most of the ground was not only too rough for a tractor but too steep for dust, and everywhere a vehicle could go there was enough dust to take its tracks. More than once the marks showed multiple; evidently Ingersoll was retracing his earlier path.

FOR SOME fifteen miles projectile distance, which the torturous way made into more like forty, they followed westward between Moretus and Short. Then the trail led up the outer slopes of a ten-mile crater which overlapped the northern rim of Short, and down a terrifying ridge where the two merged out onto the somewhat smoother floor of the latter. The trail was more difficult to see here, but the drivers were catching on to the logic Ingersoll seemed to have used in finding the passes; and between this and the occasional tracks, they were able to follow almost straight across the thirty-mile walled plain of Short to another intruding pit on its southern rim. They sloped up along the latter, and eventually emerged on the eastern brink of Newton. They were perhaps ninety miles from the ship in a straight line, but had ridden considerably more than twice that distance.

The scene below them was something Earth could not offer, and even the moon would have had trouble in equalling. Newton comes the closest of any ringed plain of its size to having the entire floor visible from one of the walls. Usually the far side is well below the horizon: but Newton is deep. The men were not at the highest point of the rim; that was nearby, a four-and-a-half-mile peak more impressive than any mountain of Earth, since the four and a half miles was above the nearby plain rather than a sea several hundred miles away. Even from the point where the tractor was parked, the drop to the central plain

was stomach-wrenching—something better than twice the depth of Arizona's Grand Canyon.

A little ahead of them, the wall curved in and descended toward and even beyond the center of the ring, almost as though Newton were two part-ly-fused craters. It seemed likely that the trail they were following would go down this way; the fugitive had certainly come this way before, and it seemed unlikely that he would have resisted the temptation to make the descent along what looked like a God-given path.

JORTH and south the walls curved westward, finally swinging back together and meeting some seventy miles away. Inside, they alternated stretches of appalling steepness with what amounted to broad terraces; on the far side. the lowest of these could just barely be seen above the bulge of the moon's curvature. The curve itself showed plainly on the floor of Newton, though even allowing for this the "plain" was far from level. The northern half seemed deeper than the southern, carrying on to some extent the impression of two merged craters; much of the deeper floor was invisible in the shadow of the north rim, the sun being less than fif-teen degrees above the northern "horizon." It was less than a day past local noon.

"This is a bad place to park if we don't want Milt to know we're coming," remarked Detzel after absorbing the scenery for some minutes. "This metal buggy must be gleaming all over the crater. If he's anywhere inside, he must know we're here already."

Imbriano didn't answer directly. He was scanning every
dark patch he could see within Newton's ring with the infra-red viewer, and the northern part of the floor was a lot
to cover with the narrow-field
instrument. "I should think
that even a man in a space suit
would radiate visibly against
that background," he muttered.
"It's cold. Not a flicker on the
screen, at any gain this thing
can take. Any metal reflection
in the sunlight areas?"

"Nothing so far." Both the other men spoke together.

Frake added, "You want a spell on that snooper?"

"All right." Imbriano removed his face from the visor, and handed the gear forward. For some time there was little sound as Frake very slowly and methodically scanned the impenetrable darkness below. Then he stopped, and played with the gain control for a moment or two.

"That should be it," he said.
"It's about the right temperature for a condenser radiator.
I can't see any motion, but he's
a long way off—forty miles,
I'd guess, though it's hard to be
sure when we can't see the bottom contour. He could be on a
hill a lot closer."

"Where?" both the others asked simultaneously.

\*\*SEE THAT peak just coming up into sunlight on the floor, just below another on the far rim? There. It's warm enough to show on the screen. Now, swing the viewer to the right slowly—just a couple of degrees—that's it; you should have him."

"There's a spot on the screen, all right," Imbriano admitted. "I can't read these colors well enough to judge temperature, but you should know this gadget better than I. If you say it's the right temperature, it must be Milt. I can't imagine any other source of warmth down there. Let's go."

"Which way?"

"Keep along the trail. I know it takes us farther away from that radiation source, but I can't see diving straight down hill toward it"

Detzel nodded, started the turbine again, and sent the vehicle crawling forward. As they had expected, the trail led out onto the spur which merged into the floor miles across the plain. It was impossible to follow rapidly; on the original trip, Ingersoll must have been amazingly lucky to find the way down in the time he had been away. It turned out that the trail reached the floor well before the buttress did, switching down the north side so they were able to keep the radiation source in sight nearly to the bottom. On the floor itself, of course, the curve of the moon put the other machine below the horizon.

The trail now led almost straight toward the northern shadows; the sun crawled visibly toward the scarp miles above as they advanced.

"We're going to need lights here," remarked Frake. "There's reflection from the peaks, all right, but I wouldn't trust it to keep us out of a crack."

Detzel grunted agreement; Imbriano was silent. A faint memory was crawling up into his consciousness. He kept sweeping the darkness ahead of them, hoping the other tractor would show on the screen; but the minutes crawled by with nothing appearing

THE SUN vanished at last. The ground about them could just be seen in the light reflected from the ring of peaks, but as Frake had predicted, the lights of the tractor were needed. If the other vehicle were still in shadow, it must be using lights too; but of course these would be almost impossible to see unless pointed straight at the pursuers. Impriano kept the viewer in use.

The ground, when they first

entered the shadow, was the typical, dark, dusty lunar plain. At first, they saw an occasional track; then they must have wandered a little off the line, for no more of these appeared. When Detzel finally pointed this out, and asked the doctor which way to go, Imbriano answered, "As you are. Keep angling west, and toward the north rim. That's about the direction to the spot where he was, and there's something else I want to see, anyway."

"You won't see much with these lights," replied the driver. "You'd better wait until the sun gets here. It looks as though we might be waiting, anyway; turbine juice is running low. We're about to the halfway mark on the gauge, and there's a big hill to climb the way back." I mb ria no smiled, seemed about to speak, but didn't.

Then, slowly, the ground changed. Its color under the lights was paler, as though more feldspar were showing in the predominantly be a altic rock, and the doctor began to nod slowly. At last the surface seemed almost white.

"Bear a little to the leftiive degrees or so," he said abruptly. Detzel obeyed without asking why, and silence fell again for another ten minutes. Then something appeared on the ground ahead.

"Tracks!" exclaimed Frake, the first to see them. "We've found the trail again!"

"I thought we'd be pretty sure to cross it," Imbriano said quietly, "and of course, it would show up well here."

"Why of course? Because the dust is so light-colored? I'm surprised it's deep enough, on this flat surface. The trail looks almost like marks in snow."

"Ub-huh." Imbriano drawled the answer in a manner which would not have been tolerated even in a child actor, but the tone got his hearers' attention. They whirled in their seats to face him.

"Are you implying it really is snow?" gasped Detzel.

EYES FRONT, driver. I am too much of an ignoramus to dare imply anything. I think I owe Milt Ingersoll a profound apology, though. If one of you will switch on the

radio, I'll try to make it. He might be close enough for diffraction to get him even if he isn't quite line-of-sight from here."

"Wait a minute." Detzel made no move toward the radio. "I don't care what the stuff out there looks like. If it has a boiling point much below that of feldspar, I'll melt and drink it. You know as well as I that even ice has a respectable vapor pressure near its freezing point, and when the sun gets on his stuff it's a darned sight hotter than the freezing point of ice."

"Minor catch, Al. When does the sun get on it?"

"Why-in the daytime, of course. It..."

"I hate to be a party pooper, but isn't it daytime right now, on this part of the moon? Correct me if I'm wrong."

Detzel whistled gently.

You're right. Some of this shadow would get light when the sun was farther east or west, but most of it, right against the wall particularly—but wait. What about seasonal changes?"

"On the moon? With its

axis about one degree from the perpendicular to its heliocentric orbit? Sorry. I don't know how permanent that axial orientation is-with all the perturbations there must be-hut I'll bet it hasn't wandered very far from its present line since the moon's rotation matched its geocentric revolution. Some of this area may have been dark for only a few thousand or a few million years, but right in against the cliffs it's been more like two or three billion, I expect"

"I see what Milt didn't like dright. All right, I concede, I'll drink the stuff. But wait a minute. Granting that it could stay here, how did it get here? I don't buy rain, springs, frost, dew, rivers, or any other normal way."

"You'd better not drink it. I expect it's ice only by courtesy. I wouldn't be surprise if a good healthy lacing of ammonia and perhaps methane were there as well as water. As far as how goes, I don't really know. But as a working guess, the moon must have passed through quite a few comet talls in the

last couple of billion years."
"But comet tails are thin-

a ton to the million miles of length, or something like that..."

"Two billion years is a long time. But I don't insist on that, I haven't tried to work it out quantitatively, and wouldn't be able to get an answer if I did try. Maybe the solar system went through a nebula or something-I don't know, I just say there's something like snow out there, and Ingersoll seems to have convinced himself that's what it is, judging by his remarks a few hours ago. That's why I say-give me the radio. I want to apologize to him." Detzel obeyed in dazed silence, and Imbriano sent a call pulsing out over the crater floor, but there was no answer. He stopped after a few minutes, judging that he either wasn't being heard or was being snubbed, and they kept on along the trail.

IV

Pafter several more unanswered calls, they reached

a spot where something seemed to have happened. There was a dark patch of irregular shape on the "snow," The white deposit was now some half an inch deep on the plain; but here it seemed to have been cleared away. The edges of the bare region were sharp and well defined, though irregular. The men all reached the same conclusion at the same time; they had all shovelled too many snowy driveways to be fooled here.

"He scraped the stuff up to put in his tank!" exclaimed Frake. "That's what he meant about water, all right—though he'll spend a good long time getting up enough to make much impression on the ship's tank, I should think. But hadn't we better do the same? Our own fluid gauge is reading lower than I really like, at this distance from Moretus."

"How about it, Al?" asked Imbriano. "Suppose this stuff is largely ammonia and/or methane? What would happen if we used it in the tractor?"

"Either one is all right so far as straight theory goes," Detzel replied carefully. "They're both low-boiling, low molecular weight compounds which would operate perfectly well in a turbine. I'm just afraid they might be a little too low boiling. That would cut down efficiency, and at our working temperature their vapor pressures might be too much for our tank."

"I was afraid of that. Is there any way we can make sure, safely?"

"I should think so. There are safety valves on the tanks —after all, even water is apt to get pretty hot if the tractor stands in the sun for long. The regular relief valves might keep things safe, but I could ease off their springs a bit to make them safer. If we don't put too much of the stuff in at once, we might get away with it. After all, Ingersoll seems to have."

"HE SEEMS to have loadthe stuff. We don't know that he got away with it," responded the doctor dryly. "I suggest, Al, that we quietly put one pinch of the stuff in the tank and see what happens—in fact, could we draw a bucket or can or something of water from the tank and put our pinch of snow in that, at some distance from the tractor? I admit I'd be happier that way."

"I guess a cup of water would last long enough for that. We'll try, anyway." The three men donned their helmets. pumped a reasonable fraction of the cab's air into the lowpressure economy tank, and opened up. Detzel found a paper drinking cup and stepped out, making his way around to the trailer which carried the. fluid tank. There he bent, held the cup under a stop-cock, and quickly opened and closed the latter. Water squirted out violently; it was warm enough to have a vapor pressure of several centimeters of mercury. The stream of liquid hit the cup and splashed, but enough remained inside to be useful. Detzel grimaced behind his face plate.

"Offends my economical soul," he remarked, staring at the bubbling, frothing liquid.

"You'll be wasting more if you don't get moving," retorted Frake. "Get some of that snow in before everything boils away."

Detzel obeyed. He took a small scraper from its place on the side of the trailer and walked over to the edge of the clear area. He set the cup on the ground where the men could see it; Frake was holding the beam of a flashlight on the scene. He picked up a bit of the snowy material on the end of the scraper, and tipped it into the cup.

The results were spectacular; as Imbriano said a moment later, "Water holds quite a bit of latent heat, doesn't, it?" The contents of the cup fountained skyward and failed to return, fading into invisible vapor before the moon's feeble gravity could do much about it. The cup itself was intact, but the fact was rather surprising to the witnesses.

"I don't think any valves made will take that, or let the tank take it," Detzel remarked. "I'm afraid we'll have to depend on what's still in the tank to get us back to the "ship." "HAT?" Even Imbriano

was startled to hear the dry voice of Ingersoll in his headset once more. "What? Can't the brilliant doctor solve such a simple problem? Even when he just mentioned the answer? But of course, you have a slight disadvantage. You have only one fuel tank. haven't you? I very carelessly brought the spare with me. It was empty when I filled it with snow, friends-no water. No stored heat to speak of, I've packed the snow into it, and we'll just let it melt very slowly, and the methane can evaporate quietly through the valves, and the ammonia stav in solution if it wants

"I'll tell you what, good doctor; why don't you just dump all your water out of that tank? Then in a little while it will be cool enough to take the snow safely, and you can go back to starve with your friends—for you can't catch me, can you? I have two tanks, and that makes the big difference, doesn't it? Tm going, by the way, and I'm sure you can see me with your instruments, but you can't follow. You don't

dare go any way but back to Moretus, do you? Of course, I'm not going far either— I'm not going to take this tank out into smilight for a while—but you don't dare even chase me around in circles, do you? Fuel is getting a little short."

He broke off as abruptly as he had started. The drivers looked at the doctor. He shrugged invisibly in his suit, and led the way back inside the cab. There, with air once more about them and their helmets off, Frake finally spoke up.

"Well? Was he right?" He was looking at Imbriano as he spoke.

"I'm not the engineer," the doctor said wearily. "So far as I can see, he is perfectly tight. Personally, I'm op t im is ti c about the fuel in the ship's tanks. I don't think we could possibly have lost much before the ice layer formed. But that doesn't make me any happier about Ingersoll."

"Maybe we'd better tell him about the ice stopping the evaporation," suggested Frake. "You do it. He certainly

"You do it. He certainly wouldn't believe me," the doctor replied wearily. Frake took the microphone.

HE CALLED Ingersoll's name several times, without answer; then he told about the freezing in the tank, sure that the other was listening. He ended with an air of frankness.

"I admit we don't know there's enough to get us home," he said, "but you know I'm talking sense when I say there's a good chance of it. If you want to take that chance, just stay where you are and watch. You can probably see the takeoff from here. You'll know about when it will be—you can guess how long it will take us to get back. We're starting now. You can stay or come, as you please."

He hung up the microphone, and Detzel started the tractor out toward the sunlight, slanting back toward the foot of the trail leading down from the rim. Imbriano rode with his head turned over his right shoulder, in the general direction that he believed the other vehicle to be. There was no sound from the radio.

But it was Detzel who first

saw the other machine, and called their attention to it. It was parallelling their course, half a mile to the north, and gradually pulling ahead of them. It was just barely visible; almost all that could be seen was scattered light from its lenses, and the streak of illumination stretching over the ground ahead of it. Detzel took the microphone

"Glad you're coming, Milt," he called. "Want to lead? You must know this road enough better than we do, so you can go faster safely." There was a brief pause.

"All right. Pull over this way, and fall in behind me." The voice had lost all trace of emotion. Detzel slanted obediently to the left, and relaxed a trifle—he had been giving close thought to the problem of navigation. Imbriano did not; and it was just as well.

THEY WERE à scant hundered yards from the other machine, and were just about able to make it out in the light reflected from the mountains, when Detzel's attention was jerked back to full operational

level. With a turn that threatned to snap the couplings of its trailers, Ingersoll's tractor was whipping around; its lights glared directly into their eyes, and Imbriano and Frake ducked instinctively. Fortunately, Detzel's reactions were of a more constructive nature; the wrenched their own vehicle to the right, and managed to avoid the first charge.

"Get your helmets on!" he snapped to the others. "Then take the wheel, Bill, while I do mine. If he even grazes us there'll be no air in this cab!"

"We can outrun him. He's pulling a bigger load," the doctor pointed out as he fitted his helmet in place.

"We could on the straight but we're not sure we can go straight. If anyone knows the crevasses around here, it's Ingersoll, not me."

"Even he shouldn't know them too well. He can't have spent all his time exploring cracks," Frake put in optimistically.

"He doesn't have to know them at all to have a big advantage," snapped Detzel. "The sad fact is that we're going first. If we can keep going, he can. We can keep ahead just as long as I don't have to detour."

"Head out into the sunlight!" cried Imbriano. "He won't dare take that trailer of snow out there. It would boil too fast."

"We don't know what he'd dare. It's a metal tank, and would take a while to heat up. And if he's willing to risk his own life in a collision, he can't be very rational anyway. I'm already on the way toward sunlight, in case you hadn't noticed."

"Put on more juice! He's catching up!" called Frake. Detzel tried, but the turbine was already whirling at its safe limit.

"Something's wrong. Our trailer must be dragging," he snapped. "We didn't take time to service it properly before we set out on this junket."

"That's not it. I can see now. The back right tire is flat. Either it picked a gruesome time to hit something sharp, or Milt nicked it on that first pass." "IF WE CAN'T outrun him, we'll have to outmaneuver him," grunted Detzel. "We should still be able to make tighter turns than he can, tire or no tire. Tell me when he's

about twenty yards back."

"He's closer than that already, I'd say, though it's hard to be sure with the lights right in my eyes." Detzel's answer was another twist to the right. At the same moment, Imbriano started the economy pump, since they all had their helmets sealed by this time. Neither of the others noticed:

Detzel would probably have

objected to the waste of power

if he had.

The turn was almost, but not quite, successful. The other machine grazed the rear of their trailer, some projection on it ripping their other back tire. Fortunately, the fuel tank in front made the trailer's center of gravity a trifle ahead of the middle pair of wheels, so it didn't settle too badly on the back ones except under acceleration; but the additional flatting of the middle duite a bit of drag.

For a moment, it looked as

though Detzel might be overcoming this disadvantage. He held his turn, and the other train was unable to match it. as he had hoped. Slowly he drew ahead: then he was parallel, going the other way: then drawing up behind as he lapped Ingersoll. Then they were travelling only a yard or two away from the back trailer of the other machine, and matching its angular speed. As they reached this point, Imbriano opened the door by his seat and swung out.

For a moment, neither of the others noticed. By the time they did, he was climbing across the back of the cab and almost within reach of Ingersoll's rear trailer. He reached, but couldn't quite make it.

"Closer, Al," he snapped. The others heard his voice, didn't for a moment realize where he was since the suit radios gave little indication of distance, and Detzel obeyed without asking why. Then Frake looked back, discovered the doctor missing, and after a moment located him.

"Doc! You idiot!" he cried. The call distracted Detzel, but fortunately not enough to disturb his driving. "What's the matter?" he asked without taking his eyes from the other vehicle.

"Doc's climbing onto Milt's trailer! He's nuts!"

"SHUT UP, stupid!" Imbriano's voice came.
"Well, never mind. It's too late now." Frake had forgotten that they were now using the suit radios, and Ingersoll could hear anything they said. The doctor, with secrecy at an end, addressed the geologist directly.

"Here I am, Milt. Right on your rear trailer. Any ideas about how to run into me now? You might as well leave the other tractor alone. Getting it won't get me, will iv?"

The answer that came back was unprintable, except for the concluding sentence: "Anyone who helps you needs squashing, too." The larger train swerved away and slowed down, trying to bring Detzel ahead, but the engineer was alert and held his position to the other's right rear.

Imbriano, holding firmly to

the body of the trailer, spoke again. "Don't waste too much fuel, Milt. You may find you don't have much to spare, after all." He began to crawl forward along the train as he finished speaking. The bodies of the vehicle were mostly empty—they never knew why Ingersoll had taken so many—and the spare tank containing the snow was bolted to the front of the second one in line. The tank on the first was, of course, actually in service.

Reaching dangerously around the snow tank, Imbriano found the pin of the coupling which connected the trailer to the one in front, and pulled.

He was unable to move it; there was too much tension on the coupling as long as the tractor was pulling. There were several cases on the front trailer, ho we ver—probably the missing food—which prevented Ingersoll from seeing what the doctor was doing; and this uncertainty led the geologist to solve the other's problem for him.

Thinking that Imbriano was damaging his precious reserve tank, Ingersoll began alternately braking and accelerating in 
an effort to shake him off. 
This was nearly successful, but 
it also enabled the doctor to 
work the pin free after a few 
cycles, since each time the push 
changed to a pull or vice versa 
there was an instant when it 
was loose. At last he got it out, 
and had the satisfaction of seeing the tractor and front trailer bound away from him as Ingersoll applied power once

THE GEOLOGIST realized instantly what had happened, cut around in as tight a circle as he could to bring his lights on the trailers and Imbriano, and stopped. He evidently wasn't ready to come out; it was too dark to see inside his cab—especially past his lights—but the pause suggested that he was helmeting up and pumping back his air. Imbriano assumed that he was preparing to come out, anyway, and thought of a delaying move.

"Just a minute, Milt—don't come out yet. If I see your cab door open, you'll see this stopcock do the same thing. How about it?" Imbriano had his gloved hand on the bottom tank drain.

For a moment there was silence. Then, "Go ahead and open it. Here I come!"

The doctor couldn't see the cab door open beyond the lights, but he wasn't looking anyway. He carefully opened the stopcock and sprang back, expecting a jet of vapor comparable to the one from the cup not long before. He was watching for it so anxiously that he almost didn't see flow coming, for the watching job took no longer than he had expected. Nothing happened.

Fortunately for the doctor, Ingersoll had seen the whole thing, and he came to a stop beside the trailer and laughed.

"Smart boy, Doc. I suppose you expected the stuff to boil right out and leave me stranded, didn't you? You didn't remember that the tank has never been in the sun since it was filled, and it had no water in it, and had been out of the sunlight long enough to cool down even before it was filled. Where did you expect the energy to come from? Or doesn't the

medical profession believe in conservation of energy? Why, you little..." his language became profane and irrelevant once more, and he made a leap in Imbriano's direction.

The doctor had plenty of time to get out of the way; and his own leap took him out of the direct beams of the headlights, so that for a moment he effectively vanished. Ingersoll started to follow: then a flash of reason crossed his mind, and he headed back for the cab of his own tractor. He got the idea more quickly than any of the others, and made it with plenty of time. He had left the turbine idling, so there was no delay in starting, and neither the doctor nor Frake, who had also leaped from their tractor the moment Detzel brought it to a halt, had a chance to get aboard Ingersoll's.

"Get back with All" called Imbriano. "Get back in the tractor, and keep it out of the way. I'm safe enough. Maybe he'll cool down enough to reason with after he's made a few passes at me. Unless he's taught that machine to jump, he'll nev-

er catch a man on foot with

Frake agreed, though his words were nearly drowned in another flood of language from Ingersoll. Imbriano was promptly given the opportunity of proving his claim that he could keep out of the way of a Tractor.

HIS IMAGINATION supplied the thunderous turbine whine which the lunar vacuum could not transmit. Some sound, but not much, came through tracks, ground, and feet; but practically, the chase might have been recorded on an old silent film. Frake, later, claimed he was surprised not to see subtilles; but his sense of humor was not very subtle.

Imbriano was not feeling humorous at all. He was able to dodge, all right, but it was not very easy, and he was afraid of leaping too far. A bad landing could be disastrous, since not very much has to go wrong with a space suit to kill its occupant. After a few passes which would have won very little applause in a Spanish

bull-ring but were quite as exciting for Imbriano as he wished, it occurred to him that Ingersoll might be a little slower if the dodging were being done around his precious reserve tank. Accordingly, the doctor made his next leap or two in this direction, and began playing tag around the stranded trailers.

He was still hoping that Ingersoll might cool down and be reasonable; but there was no sign of such an even, and he couldn't think of anything to say that might have a calping effect. Throughout the whole affair, he had been worried by the feeling of guilt he had expressed earlier, and the worry may have slowed him down-certainly some of his escapes were narrower than they needed to be

Then a different feeling began to take hold of him. However reasonable Ingersoll's forginal resentment may have been, this grimly-determined effort to repay unpleasantness and discourtesy with, murder was going a little too far. Imbriano's symoathy and guilt-feeling began to give way to resentment

and angers his temper, never outstandingly good, was wearing thin. He was thinking, now, in terms of force rather than nersussion.

But that did him little good: granted that a man on foot could keep from being harmed by the man in a tractor, there seemed nothing whatever he could do on the offensive. Certainly Imbriano could think of nothing. He kept as close as he could to the stranded trailer, answered the questions of Detzel and Frake as reassuringly as his breath permitted, and kept moving. He didn't get onto the trailer itself; later he convinced himself, without much trouble, that his own subconscious kept him off.

THE END of the contest was, in one way, something of an anticlimax. Imbriano had thought of nothing brilliant; Frake and Detzel had made no contribution; and Ingersoll had shown no sign of giving up when the whole situation changed—instantly and without warnine.

The doctor had suffered his closest shave yet, just barely escaping the charging treads, and had ducked around the front end of the train to its right side. Ingersoll made his closest turn thus far, cutting a trifle left to get his single attached trailer clear and then swinging around so as almost to graze the front of the motionless one. There was no collision; Detzel had his lights on the scene at the moment, and he, Frake, and Imbriano himself were all certain that nothing solid touched the stranded vehicle. Imbriano, who was actually touching it at the time, was sure he would have felt the impact.

Nevertheless, something happened. It was not an explosion -at least, not exactly so. The tank which had been filled with "snow" opened almost deliberately, and sprayed over everything in front of it a furiously boiling, dense, misty vapor which glowed a bright blue-green, dazzling even against the background of the brilliantly-sunlit mountains. It covered Ingersoll's cab completely; and blinded by the featureless glare, he brought his machine to a stop. That was

enough for Detzel, who had been waiting for any sort of opportunity. He hurled his own tractor toward the other, angled it across Ingersoll's front so that the geologist was cramped between Detzel's tractor and the detached trailers. His own trailer, still attached, prevented him from backing without making a "cut" which his front end was not free to do. Ingersoll, or rather his machine, was pinned completely. Getting the man himself, at odds of three to one with the one under a steering wheel, was not too difficult.

66T HOPE they can straighten him out on Earth," Imbriano said soberly to Kinchen a dozen hours later. "He's way beyond me. He had made a real discovery there in Newtonhe must have made it on the first trip, to have planned the second as he did. Instead of reporting it, and getting all the credit he seems to have wanted so badly, he pulls this incredibly complex trick. It's like a kid who's daydreamed all the details of a party he's going to attend, and flies into a tantrum

when the facts don't follow his imagined program. I think Milt planned the plant discovery before we ever left Earth —he must have, to have brought the lichens with him —and wasn't quick enough on the uptake to throw the game aside when he made the real discovery. Life moved too fast for him.

"Of course, it moved too fast for me, too. I still can't see what happened to his tank, back there. As far as I can see, he was -perfectly right about the snow still being solid and there not being enough energy to do anything."

"You surprise me," grunted Kinchen.

"Why?" asked the doctor.
"Your admitting that you
don't know." Imbriano flushed,
started an angry retort, then

calmed down.

"Don't rub it in, Chief. I feel enough of a heel already. I suppose it was that which helped push Milt as far as he went. I don't say I'll stop it, because habits are hard to break, but I'll try. What did happen to the snow, though?"

"I don't know, either," the

astronomer replied. "It will take analysis to make sure. I think, though, that your suggestion about the snow collecting from space—nebular material, comet's tails, or what have you—is probably right. But it isn't—or a lot of it isn't—nice plain water, ammonia, and methane.

GTHERE'S a lot of radiation in space, and a lot of innocent molecules floating around there get knocked apart. What you have left is radicals—highly-reactive fragments of molecules: NH, OH, C2, CH2, and so on. I suppose equilibrium temperature there in Newton's permanent shadow can't be more than twenty or thirty degrees absolute, so the radicals were "frozen"—held below even their very low activation temperature. I'm a lii-tutation temperature. I'm a lii-tutation temperature. I'm a lii-

"As for what finally touched off that tank, my guess would be the exhaust from Milt's safety valves. You say he was

tle surprised you were able to

run the tractors over the stuff

safely-but I suppose the

treads were pretty cold by the

time you got there.

running the machine full blast for several minutes, and even in that environment it wouldn't take what water he had left very long to heat up—after all, it must have been more than half gone by then anyway."
"It was," confirmed Detzel.

"We transferred it to our own tank, and didn't manage to fill up even then. Without it, we'd have walked the last fifty miles back here."

"Well, that's my hypothesis, then. I'm glad we don't have to salvage some of that snow for the ship, though I suppose we could get away with it—add it a tiny bit at a time and let it react. The products would be useable enough. They'd be largely the water, ammonia, and methane Milt thought they were. That cleans up practically everything, I guess."

"Practically?" Imbriano was curious.

Kinchen looked at him narrowly. "Just how sure are you that the plants Ingersoll discovered are Terrestrial, and that he was faking the find?"

Imbriano hesitated before answering.

"I know what I think, but I've done enough damage broadcasting it already," he said at last. "I wish some of those specimens had been saved, and I certainly wish I'd had a chance to see what exposure to moon conditions did to those I put out. If they'd survived, or even formed viable spores..."

"They'd have been quite radical, wouldn't they?" asked Frake.

He wondered why he was sent to look for more lichens.

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## Jhe Palindromic Blonde

by Bill Wesley

No one, but no one, could have dreamed the fantastic explanation of this gorgeous blonde's behavior at the bar. No one but...

I STOOD before the gate of what must have been the slickest house in Bel Air and looked again at the card in my hand. Delbert Fancil-green. Could that really be a name? Could a guy with a name like that collect enough loot to buy the shack I was looking at? He couldn't be a Palindrome; or if he was, we ought to be taking lessons from him, not vice versa.

Monica must be nuts, I thought, as I pushed through the gate and went for the doorbell. No guy in a set-up like that would have any need for us. But Monica had said investigate, so investigate I did.

The guy seemed to be a regular fellow after all, though I still didn't think he was a Palindrome. After the second cognac he was calling me "Ham" and I was calling him



"Del". Then before I could get organized, he came straight to the point.

"So you're from the Society of Palindromes," he said. "Okay, I think you're all a bunch of nuts, but I'll give you the benefit of the doubt. What's your pitch?"

Just like that. What was my pitch? Well, what was my pitch? How should I start with a guy like that? He already thought I was nuts. Well, okey—so he thought I was nuts; I'd show him. I'd give him the straight story, then we'd see who was nuts and who wasn't...

"I'll tell you how I got into the organization," I said.
"Then you can draw your own conclusions. But don't misunderstand us. We're not recruiting members. We don't want anybody who isn't one of us already. We're just looking for people who are palindromic and don't know it."

"Okay, okay," he said impatiently, pouring me another cognac. "Get on with the pitch."

Well, there I was. What else could I do but "get on with the pitch"? I took a sip of the latest cognac and began to talk..

ONCE I was a very gay fellow (I began), the life of every party I attended. I could stand on one hand, recite the alphabet backwards, juggle three martini glasses, sing ninety-seven verses of Mademoiselle de Paris, throw darts with my toes, conduct Rorschach Tests on catprints, and do innumerable obnoxious card tricks. But that was before I met the palindromic blonde. Now I am nervous, ill-tempered, and suspicious of everyone I meet. I have hot and cold flashes. I can't sleep at night, and I have tics in both eyes-one at a time of course -all because of the palindromic blonde

(By this time Mr. Fancilgreen was roaring with laughter. I put on my soberest expression and waited for him to simmer down. Then I continued.)

It all started the night I strolled into the Dandy Lion for a highball. It was nearly midnight, and if I'd half the sense of an idiot I'd have gone straight home and hit the sack.

But I didn't have, so I went in, and that's where I met the palindromic blonde.

(Fancilgreen sort of leaned forward at that point and eased off on the laughing bit. I decided to play up the blonde angle.)

THIS BLONDE was seated near one end of the long bar, and three nondescript lotharios were ogling her from the other end. Man, was she wearing a dress! A regular skin-tight wharmy. I didn't blame the bums for ogling. Just for meanness though, I spoiled their view by grabbing a stool in the middle.

I was just ordering my second Martel and soola when I ielt something light bounce off my cheek. It was a wadded-up bar napkin, and it had come from my right, the blonde's side. Naturally my romantic instinct told me that it was a billet-doux, and I spread it out carefully to see if it said, 'Meet me at the Casbah,' or just, The me is the case of the said of the

I glanced at the blonde and caught a sort of sweet snarl on her otherwise kissable kisser. "Will you please stop tapping your fingers on the bar?" she said, in the dulcet tones of a Lucrezia Borgia. "Or try using the other hand for a while"

Now what did that mean, I asked myself. Nobody answered, so I decided to braze my way through. "I'm trying to jimmy Mars out of his orbit," I said light-heartedly. "This other is my Venus hand."

She wrinkled her nose at me and one of the oglers let out with a guffaw.

("I mentioned that I was usually the life party, didn't I?" Fancilgreen nodded impatiently and waved me on.)

WHAT'S with Madame Vampira?" I asked Stanislaus, the bartender, as he brought me a fresh brandy and soda.

"That's what we're trying to figure out," he whispered. "The boys have been keeping score on her. First she picks up her glass in her right hand, then in her left, then in her right again. Back and forth. Back and forth."

I shrugged and said, "Is

that all? Maybe she's palindromic. What do you want her to do—pick it -up in both hands?"

Stanislaus didn't care for that, any more than he cared for being called Stanislaus. He went back to the oglers' end of the bar.

I turned my head as surreptitiously as a man with only one can do it, and did a little ogling myself. I was just in time to see the blonde slip a bracelet off her left wrist and place it on her right. Then she re-crossed her legs in the opposite order.

I didn't care which knee was on top; I liked them both. But-the evidence was accumulating against her. Changing hands with her drink...transferring her bracelet from one arm to the other...re-crossing her legs...howling at me to tap the fingers of my other hand... I thought maybe I knew her secret.

I stared down into my glass and said somberly, "A palindrome is a word spelled the same backwards and forwards."

("I told you I could be the life of the party.") SUDDENLY the room became quiet. The oglers probably figured that now they had two nuts to observe. I didn't know what the blonde thought—not then, I didn't.

"Like radar," I continued.
"Or that old classic, Madam,
I'm Adam—though it's only a
pseudo-palindrome, because of
the misplaced capital letters
and the apostrophe."

A light buzzing began at the male end of the bar. The female end was quiet,

"A Palindrome can also be a person," I continued. "A person who does things backwards as well as forwards. A person, in fact, who has a compulsion to do things backwards."

Stanislaus, the bartender, moved toward me a few steps. I noticed his hand hovering over a half-empty bottle of Old Something or Other. I ignored him.

"Like a comedian who yearns to play Hamlet. Or a switch-hitter in baseball. Or an opera singer who wants to sing popular ballads. Or a transvestite.

("I gave them that one for free," I told Fancilgreen. "I figured it was safe. Morons and bums Stanislaus could understand; limp-wristers he usualy threw out on their ears.")

"Something in the brain becomes unbalanced and the poor Palindrome doesn't rest easy until he reverses his field and

equalizes things," I turned my head and looked at the blonde. Then, deliberately, I began tapping the fingers of my other hand against the bar. She glared at me for a moment, then bounced off her stool as if it had stung her, She threw a dollar bill on the counter and sinusoidaled her way through the front door. I sat there stunned. After all, a dollar bill for Stanislaus! I never left him more than a half, and then only if I'd had one on the house.

"So you're a smart guy," Stanislaus said, going for the buck. "I gain a theory and lose a customer."

"You lose two customers," I told him, gulping down my brandy and lurching gracefully away from the bar.

I LEFT HIM a quarter and hit for the sidewalk. There was a green convertible parked at the curb. As I walked by it, the door swung open, and I got a whiff of something that wasn't adamstie by a damn sight. I bent over and peered inside It wasn't Boris Karloff

"Hi!" the blonde said.

"Hi, yourself," I answered, not letting her get ahead of me that easy. "If you want to fight, why don't you come out in the open?"

She laughed, and switched on her ignition—the car's, that is. "In three seconds I'm taking off," she said. "With or without a passenger."

I slid in After all, I had only worked ten hours that day; and you're only middle-aged once; and the moon may be made of green cheese; and for all I know, some pigs might have wings. Not that I'm the kind of guy who can be picked up by just any old dress—not more than seven nights a week anyway—but I made an exception in her case.

IT WAS a quick three seconds. In three more she was doing thirty going on seventy. I gave her ten seconds to start a conversation, which is a double-bogey with me, then I said, "Did you know that Antares is big enough to encompass the orbit of Mars, and should be doing it?"

"My name is Monica," she

"My name is Hamilton Farley," I told her. "My enemies call me Ham."

"Sounds appropriate," she said. She didn't speak again until we were inside her apartment. Then she said, "Please sit down. I'll be with you in a minute."

I sat, and wondered what she could do in a minute that was worth leaving me for.

"Why don't you loosen your tie?" she called to me from a docrway across the room. "M'ght as well be comfortable."

I not only loosened my tie; I threw it away. I took off my coat, set aside my cuff links, and untied my shoelaces. Then I leaned back in her softest chair and closed my eyes. Ah, how heaven!

Five minutes later, I heard a faint rustling sound, I tried to guess if it was satin or taffeta, Either one was okay with me, as long as Monica was partly inside it. I waited until the suspense almost killed me, then I turned. I was just in time to see something else almost kill me—the butt end of a thirty-something-or-other. I never was good at guessing calibers, especially in a semi-dark room, and with the muzzle couched in some weight liliter's pudgy paw. I didn't know what else to do but grunt and pass out, so that's what I did.

(Fancilgreen was all seriousness now. He even stopped pouring cognac. I'd been watching him closely, however, and I hadn't caught any palindromic signs yet.)

SIX YEARS, or six hours, or six m in ut es later—you couldn't prove it by me (I went on) I awoke to find the weight lifter seated across from me; a junior weight lifter next to him; Monica reclining seductively on a couch, and all my moveble parts tied to the chair I had so happily relaxed into.

Then began one of the most ridiculous conversations in the short, happy life of Hamilton Farley. It went something like this:

"How'd you find out?"

"Find out what?"
"Ouit clowning."

"Never, Ouch!"

"Never. Ouch!"

"How'd you find out?"

"Find out what? Ouch!"
And so on ad almost infini-

tum. For a while it was worth it; I got to watch Monica between the junior weight litter's stomach punches. It had been satin after all, and the only word for it was hummm!, I finally got bored, however, and said, "Hit me somewhere else, will you? I'm palindromic too, you know."

This had a peculiar effect on the junior weight lifter. He hit me somewhere else.

"You're a liar, Mr. Farley," the first w. l. said. "We know you aren't one of us. But you know too damn much, and we want to know how you found out. Has one of our people been talking? The girl here maybe?"

I WAS ALMOST ready to take him seriously. I had to. If I laughed once more my stomach was going to hurt. "Nobody talked," I said. "I was born one of you, but I was left on Groucho Marx's doorstep and I've been normal ever since."

"I repeat," the first w. l. said, "you're a liar."

Monica rustled her satin delightfully and asked the big bruiser, "Are you sure? He does have some of the characteristics—and he knows...".

"Are you crazy?" the big guy said, in a tone that left little doubt as to his own opinion. "Watch his eyes. He just blinked that one five times straight. He's no Anastrophic."

(I watched Fancilgreen carefully as I said this.)

"My mother was scared by a turn-indicator," I said (going on with my straight account.) "I realized too late that this would make me only about ten years old. You see, this was 1959, and turn-indicators were relatively new then—but you probably caught on."

"We'll have to take him out to the farm and work him over," the big guy said. "No matter how he found out—he knows too much."

"MIND IF I break in and say so mething?" I asked, breaking in and saying something. "What is it that I am supposed to have found out? Ouch!"

"Leave him alone," Monica told the little w. l. "You'll spoil him."

"Who, me?" I laughed, and passed out again.

Another six years passed and I awoke to find Monica standing over me holding an empty highball glass. I had a vague feeling that its contents had just been tossed in my face. If so, someone had mixed her a thin one; I couldn't taste anything but water.

I was no longer tied to the soft chair; and the little guy with the affinity for my belly was gone. But his big brother was still extremely present. In fact, he was talking. He was saying, "Okay, on your feet, sad sack."

"Nothing doing. I'm staying right here," I said, obeying him.

I reached down to tie my shoestrings, but instead I put both palms on the floor and did a handstand. Now if you're a conventional sort of person, you might think it strange that I should have done that just then: but I admitted that I was a compulsive psychotic. I'll perform any time. This handstand, however, was a little more functional than most; I went all the way over and banged my heels hard against the big w. I's, face. He howled. fell over backward, and dropped the pistol, I pounced on the pistol and let him who would chase the howl. Now I was master. Immediately I put one hand inside my shirt and said to Monica, "Josephine, bring the bottle."

I TOOK A good swallow, noted that it hadn't been cut, then said, "Okay, on your feet, sad sack."

The big guy started to get up and I shoved him back.

"Just wanted to see what you'd do," I told him. "Now we're going to play a little game. We're going to pretend that I'm not a smart guy who ferreted out your little secret; and that I'm not a tough guy who would rather die from belly punches than squawk. We're going to pretend that I just didn't know any better,

and you're going to tell me what it is that you think I found out about you—now!"

I could almost hear Humphrey Bogart spinning in his grave, but it was the best I could do. And it worked. Big brother talked. He admitted that they really were Palindromes, though they called themselves Anastrophics. I let it pass, but their word wasn't as good as mine. Anastrophy refers only to words, while there really is a medical term palindromia—it means relapse. ("I don't know where I

learned all this," I told Fancilgreen. "Would you rather hear my life's story?"

He didn't reply so I went

He didn't reply, so I went on.)

ANYWAY, these Palindromes, as I'm going to continue calling them, were trying to take over the world.

("You knew it, didn't you? Somebody's always trying to take over the world. I could never understand why. Who wants it? What would you do with it if it was yours, right now?" I asked Fancy. He twitched a little, and said nothing, so I hurried on.) Well, anyway, these people haad discovered long ago that they were more efficient than normals, since they used their bodies symmetrically; and they also believed that they had a greater capacity for the enjoyment of life. I had to laugh at that one.

## ("You too? Good!")

"We have campaigns going all over the world to make life more convenient for our people, and less convenient for normals," Monica told me. "We try to establish styles and mannerisms that make normals feel awkward, as for instance, take the matter of the fork."

"What about the fork?" I asked, proving that I could be a straight man too.

"Oh, you know. Europeans handle the fork upside down, and use the left hand, which Americans think is prissy. Americans turn the fork over and use the right hand, which Europeans think is terribly gauche."

("There's a play on words gauche, right handed..." Fancy wasn't with me.)

"But we Anastrophics," Monica continued, "we're comfortable either way. Applying the laws of evolution to this sort of thing leads to the inevitable conclusion: we shall survive, and normals will die out."

I really did laugh at that one, even if it did hurt,

"That's mighty important, isn't it?" I said, between spasms. "Which hand we hold our forks in."

SHE POUTED at me, "Go ahead and laugh, idiot. That's far more significant than most of the things that have changed the course of civilization. It just takes time."

"Tell me more," I coaxed

"Well, we've had a few things go wrong, but we'll get everything straightened out eventually. We succeeded in getting everybody but the British driving on the right hand side of the street, then we encouraged the exportation of British automobiles. But the manufacturers fooled us. They modified the cars marked for export."

By this time I have to confess that I was intrigued with the idea, but I didn't go for the power angle. Live and let live was okay by me, but taking over the world was out even by easy stages. I told them so in no indefinite terms. For a while I thought Monica was pleased, but I wasn't sure.

All this time I hadn't forgotten about little brother. I assumed that he had gone for the car. I was listening for his footsteps. Meanwhile, I motioned Monica to go on. I figured I might as well hear it all, even if I turned them in when it was over.

"Shut up," the big guy told her. "You've already talked too much."

"Well, there was Bach," Monica said, ignoring him. 
"Johann Sebastian Bach, that is—he was one of us. He tried to put across contrapuntal music to drive people mad who could only follow one melody at a time, but it didn't catch on. It was too intellectual. It might have done all right if it had been played often enough but it wasn't played. We have to move at a calculated speed, or our movements die out."

I was utterly fascinated, in spite of my high moral character. What a career for a practical jokester like me. Too bad about their ultimate goal, however. I knew I would have to break it up.

I stalled until I heard little weight lifter returning, then I moved over by the door. I didn't mess around with him; I clipped him on the noggin. Would you believe it, I had to hit him twice? Once for each lobe I guess.

Then just as I thought I had everything under control, they got me.

"GOT YOU?" Fancilgreen said suddenly. "Got you how?"

"Just got me, Two more guys came in from the rear somewhere and grabbed me. They set me down quietly, then they all had a good laugh. Monica started making fun of the two weight-lifters for letting me get the drop on them; and they countered by ribbing her about taking over the world and so forth"

"You mean it was a joke?" Fancy asked. "They weren't

"Oh, they were serious all right. Still are. But not about taking over the world. They aren't a bunch of Hitlers. In fact, that's what they were testing me about. If I had fall-en for their power angle they would have thrown me out on my ear. They intend to exploit the symmetry angle, and use what influence they can to make things more convenient for themselves, but they have no plan to disrupt society—nothing like that."

"I see," Fancilgreen said, frowning. "And you fell for that? You think they wouldn't take over the world if they could?"

Now I was getting somewhere. "I'm sure they wouldn't," I said innocently.

FANCY SAID, "Hmmmmn!" and poured another cognac—just for himself this time. Then he began pacing the floor. Not once did he change hands with his drink. In fact, not once all afternoon had he changed hands with his drink.

"Well, go on with your story," he said, sitting down again and facing me. "What did they do with you?"

"Oh, they gave me an assignment," I said, trying to get back into the groove. "They swore me in as an apprentice Anastrophic-though I still called myself a Palindromeand sent me out to sell doublehandled coffee cups to all the cafes in the country. In addition, I was supposed to make the rounds and try to persuade the waitresses to place the cups directly in front of the plates, instead of at the sides. Just to make it a little tougher on the normals-you know, knock over the catsup bottle while reaching for the cup-that sort of thing. And that's what I was doing when they picked me up-trying to sell a waitress a two-handled coffee cup. Of course I got a short sentence, but I'll have to be more careful. Next time I might not get off so easy."

FANCILGREEN began pacing the floor again—not nearly as good-humoredly as before. "You're sure that there's no—well, no danger from these people? You don't think they could—well, you know, be talked into anything?"

At last I had learned what I had come for. Monica would be pleased.

"Oh, I'm sure," I said, still

innocently. "That was all just part of a test."

Fancy then set his cognac glass down hard and stood squarely in front of me. "Well, I still say you're a bunch of muts, and I don't know who in your organization thought I would be interested—but Mover it was, he was mistaken. Now I would like to get back to my more important work."

So that was that. There was nothing left for me but to bow out, so bow out I did I didn't even wait for Fancy's butler to show me the door.

Once outside, I headed for the nearest phone booth and called Monica.

"Just as you guessed, sweetheart," I told her. "His only interest was in starting a revolution of some kind. When I gave him the straight story he cooled off but quick."

"The straight story, huh? Ham Farley did you give him that corn about picking me up in a bar and being kidnapped?"

MONICA always had a way of making me feel uncomfortable. "Well," I hedged, "I didn't have time to think up a new one. Anyway, what's the difference? We found out what we wanted to know."

I could hear her fuming half to herself, but I suspected that she was stifling a snicker too.

"Well, all right," she said at last. "Might as well come on back. We could have used his donation, but we don't want any trouble-makers. We'll try the other plan."

"What other plan?" I demanded, "By the way, you never did tell me why you were interested in old Fancilgreen. What did we need his money for?"

Now she was fuming for sure. "We always need money, idiot. But come on back. I have another assignment for you."

"Oh, no!" I exclaimed. "Not another interview."

"No, no more interviews. I couldn't stand having that same story make the rounds again. I've got a juicy one for you this time. You'll love it. One of our boys has composed a nude ballet to a Bach fugue and I want you to take it to Las Vegas and try to sell it. That-ought to be right in your line."

"Yes, I see what you mean,"

I said. "I'll be right there. Yes indeed. I'll be there right away." I hung up.

Hmmmmn! Right in my line! Yes, maybe it would be. Sounded interesting too. And to think that some people still believed in using force, Ugh!

I hurried back to headquarters to get my next assignment.



RIOR TO March 1926, the science fiction enthusiast had to follow a wide range of publications in order to find his favorite reading-matter on the newsstands. This ranged from the quality magazines, which occasionally published a story by H. G. Wells, Sir Arthur Conan Dovle, etc., which might be considered science fiction, to the dime pulp magazines. It was the latter, particularly the Munsey group, which most consistent-

## \_\_\_editorial \_\_\_

YESTERDAY'S
WORLD OF

The Coming of The Pulps

ly ran the "different" "pseudo-science" tales.

When Hugo Gernsback started the first all-sciencefiction magazine, he also set a particular standard. Without shackling imagination (and often allowing for a great deal of "poetic license") he wanted stories where the serious foundation in science, and extrapolations upon scientific possibility, came first. In this way, he broke with the popular approach of the Munsey type of science fiction, where the science was, indeed, often "pseudo science", and where the actionadventure orientation was paramount.

Amazing Stories under Mr. Gernsback's direction, whatever the actual grade of paper used at any time, was at no time a "pulp" magazine. While the aim was to popularize science in this specialized form of fiction, the magazine was not intended to be a popular, action-story magazine in the sense of the true pulps.

THE FIRST science fiction pulp was dated January 1930, was in the traditional pulp format (7" by 10"), printed on a rough-grade pulp paper, and featuring actionadventure stories in sciencefiction settings. In its first few issues, Clayton's Astounding Stories of Super Science ran both science fiction and weird-fantasy type tales. (The occult sort of weird story, rather than the g h o s t-werewolf-witch, etc., type.) After a few issues. however, this was dropped.

Pseudo-science and the barest pretense of scientific explanations were prevalent. however-for the object was strictly entertainment on the level of pulp fiction, New ideas were not forbiddenbut adaptations of familiar science fiction devices to the pulp formula were the rule. And some of the authors such as Ray Cummings, Victor Rousseau, etc., were familiar to Munsey readers. They had been writing this sort of story all along. The magazine paid higher rates than the Gernsback or Gernsbackoriginated titles, and could attract the most competent pulp writers available.

As time went on, readerpressure forced more attention to the science in the stories; and reader reaction helped to cut down some of the repetition of the stalest pulp plots. For what it was trying to be, the old Astounding was one of the most popular of science fiction magazines—and deservedly so. An astonishingly high percentage of the stories are enjoyable today.

But 1930 was the beginning of the pulp era in science fiction, and the bulk of science fiction magazines since then have been of this type, rather than the sort of magazine that Hugo Gernsback initiated.

As with the pulp magazine market as a whole, there was a wide variety—from well-written stories aimed at an intelligent and discriminating audience to the most slovenly hackwork, aimed at the undiscriminating reader who just wanted thrills. And as the number of all-science fiction titles grew, the occurrence of science fiction in the 'general magazines dwindled.

WHAT WAS the reaction of the science fiction enthusiast to this new sort of science fiction magazine? The letter departments in the Clayton Astounding show three types of response. There were some who simply deplored it; they felt that the format and presentation was cheap and cheapening to their favorite form of fiction, and that the stories were mostly hackwork. Such readers usually didn't stay with the magazine, after a few issues, and a blistering letter or two the editor. There were those who were enthusiastic. Some had never read this type of fiction before, and thought it quite wonderful; others had read the Gernsback and Gernsback initiated magazines, found them dry and too technical, and said—"At last! Here's what I've been looking for!" Some welcomed a new science fiction title, and supported the magazine critically—panning the trash and trying to persuade the editor to raise his sights.

The success of the magazine proved that the second and third categories were more numerous; for the magazine did not go under for lack of sales, but due to other circumstances. (It was finally sold to Street and Smith in 1933, and revived by them.) I myself remember buying two issues in 1930, being appalled by them, but trying again in 1931, where I was converted by the improvement, (Naturally, I had to get all the back issues, once I started!) And, like thousands of others. I lamented the magazine's disappearance early in 1933.

COULD the Gernsback type of science fiction magazine have survived had there not been the competition of 
the more "popular" type? 
That is a moot point; all we 
know is that, under the circumstances that did come to 
pass, the original type of sci-

ence fiction magazine did not survive. And that while there have been some since then which Mr. Gernsback might have read without acute pain. most of them were no descendants of his!

But I think it is possible that if the Gernsback type of magazine had continued (without the incursion of the pulp competition) with its fundamental aim of popularizing science-rather than pseudo-science and fairy tales -under the editorship of scientists, with a gradually-increasing regard for story value (which was taking place in the later issues), science fiction might not have been looked upon with such contempt by non-enthusiasts in the days before Hiroshima. All this is speculation, of course; it can't be anything else. But-as in the case of the movies, TV, etc.,-while the invasion of the pulps did make science fiction flourish. did spread its popularity, the means corrupted the end; and we are still paying the price of that popularity. RAWL

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, Unit-ed States Code, Section 223) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIR-

Future Science Fiction published bi-monthly at Holyoke, Mass, for October

The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Louis

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5. The average number of copies of

each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweek-ly newspapers only.) Louis H. Silberkleit (Signature of pub-Hisher) Sworn to and subscribed before me this 1st day of October, 1959.

MAURICE COYNE NOTARY PUBLIC, State of New York
No. 03-5844500
Qualified in Pronx County

Commission expires March 30, 1980



through other

eyes

by R. A. Lafferty

By means of the cerebral scamer, one man might, for an instant, not only see with the eyes of another but also see inwardly, with the same imaginings and daydreams... TDON'T THINK I can stand the dawn of an other Great Day" said Smirnov. "It always seems a muggy morning, a rainy afternoon, and a dismal evening. You remember the Recapitulation Correlator?"

"Known popularly as the Time Machine? But Gregory, that was and is a success. All three of them are in constant use." And they will construct at least one more a decade. They are invaluable."

"Yes. It was a dismal success. It has turned my whole life gray. You remember our trial run, the recapitulation of the Battle of Hasting?"

"It was a depressing three years we spent there. But how were we to know it was such a small affair, covering less than five acres of that damnable field and lasting less than twenty minutes. And how were we to know that an error of four years had been made in history even as recent as that? Yes, we scanned many depressing days and many muddy fields in that area before we recreated it."

"And our qualified success

at catching the wit of Voltaire first hand?"

"Gad! That cackle! There can never be anything new in nausea to one who has sickened of that. What a perverted old woman he was,"

"And Nell Guinn."

"There is no accounting for the taste of a King. What a completely tasteless morsel!"

"And the crowning of Charlemagne."

"The king of chillblains! If it was the coldest Christmas I ever knew. But the mead seemed to warm them. And we were the only ones present who could not touch it or taste it."

AND WHEN we went so much further back and heard the wonderful words of the divine poetess Sappho."

"Yes, she had just decided that she would have to have her favorite cat spayed. We listened to her for three days and she talked of nothing else. How fortunate the world is that so few of her words have survived." "And watching the great Pythagorous at work."

"And the three days that he spent on that little surveying problem. How one longed to hand him a slide-rule through the barrier and explain its working."

"And our eavesdropping on the great lovers, Tristram and Isolde?"

"And him spending a whole afternoon trying to tune that cursed harp with a penny whistle. And she could talk of nothing but the bear grease she used on her hair, and how it was nothing like the bear grease they had back home. Yet she was a cute little lard barrel-quite the cutest we found for several centuries in either direction One wouldn't have been able to get one's arms all the way around her. Yet I can understand dimly how to one of that era and region it might have been fun trying."

"Ah yes. Smelled like a cinnamon cookie, didn't she? And you recall Lancelot?"

"Always had a bad back that wouldn't let him ride. And that trick elbow and the old groin wound. He spent more time on the rubbing table than any athlete I ever 
heard of. If I had a highpriced quarterback who was 
never ready to play, I'd sure 
find a way of breaking his 
contract. No use keeping him 
on the rouster just to read his 
ten year old press clippings. 
Any farm boy could have 
pulled him off his nag and 
stomped him in the dirt."

"I wasn't too happy about Aristotle the day we caught him. That barbarous north-coast Greek of his. Three hours he had them all busy curling that beard of his. And his discourse on the Beard in Essential—did you follow that?

"No. To tell you the truth I didn't. I guess it was pretty profound."

THEY WERE silent and sad for a while, as are men who have lost much.

"The machine was a success" said Smirnov at last, "and yet the high excitement of it died dismally for us."

"This excitement is in the discovery of the machine" said Cogsworth. "It is never in what the machine discovers."
"And this new one of yours"

said Smirnov. "I hardly want to see you put it in operation. I am sure it will be a shattering disappointment to you."

"I am sure of it also. And yet it is greater than the other. I am as excited as a boy."

"You were a boy before, but you will never be again. I should think it would have aged you enough. And I cannot see what fascination this mew one will have for you. The other at least recaptured the past. This only will permit you to see the present."

"Yes. But through other eyes."

"One pair of eyes should be enough, I do not see any advantage at all except for the novelty, I am afraid this will be only a gadget."

"No. Believe me, Smirnov, it should be more than that. It may not even be the same world, when viewed through different eyes. I believe that what we regard as one, may actually be several billion different universes each made only for the eyes of the one who sees it."

THE CEREBRAL Scanner newly completed by Charles Cogsworth was not an intricate machine. It was a small but ingenious amplifying device-or battery of amplifiers-designed for the synchronous (perhaps sympathetic would be a better word) coupling of two very intricate machines; two human brains. It was an amplifier only. A subliminal coupling (or the possibility of it) was already assumed by the inventor. In fact less than a score of key aspects needed emphasizing for the whole thing to come to life. Here the only concern was with the convoluted cortex of the brain itself. the house of consciousness and the terminal of the senses; and with the quasi-electrical impulses which are the perceivable indicators of its activity.

It had been the long-held opinion of Cogsworth that, by the proper amplification of a near score of these impulses in one brain, a transmission could be effected to another so completely that one man might for an instant not only see with the eyes of another, but also

see inwardly with that man's eyes, have the same imaginings and day-dreams, perceive the same universe as the other perceived; and it would not be the same universe as he knew.

The Scanner had been completed, as had a complation of seven different brains, a collection of brain-wave dossiers correlating intricate data as to frequency, impulse, flux and field, and lyall-wave patterns, of the seven cerebrums which Cogsworth would try to couple with his own.

The seven were those of Gregory Smirnov, his colleague and counselor in so many things; of Gaetan Balbo, the cosmopolitan and supra-national head of the Institute: of Theodore Grammont, the theoretical mathematician: of E. E. Euler, the many-tentacled executive; of Karl Kleber, the extraordinary psychologist; of Edmond Guillames, the septic and bloodless critic; and of Valery Mok, a lady of beauty and charm whom he despaired of ever understanding by ordinary means.

CHARLES COGSWORTH approached the testing of his Scanner with prayer and fasting. Not that the prayer was conscious, and yet it was passionate in its pleading that this thing should succeed in him. Not that the fasting was deliberate, but he often did not eat for many hours in the excitement preceding a climax in his work.

And this idea of his: to enter into the mind of another, to peer from behind another's cyes into a world that could not be the same, this idea had been with him all his ide. And he recalled when it had first came down on him in all his strength when he was quite small.

"It may be that I am the only one who sees the sky black at night and the stars white, and everyone ease sees the sky white and the stars shining black. And I say the sky is black, and they say the ky is black; only when they say black they mean white."

Or, "I may be the only one who can see the outside of a cow, and everybody else sees it inside out. And I say that is the outside, and they say that is the outside; only when they

say outside, they mean inside."

Or, "It may be-that all the boys I see look like girls to everyone else, and all the girls look like boys. And I say 'that is a girl', and they say 'that is a girl'; only when they say a girl they mean a boy" And there came the 'terrifying thought, "What if I am a girl to everyone except me."

This did not seem very intelligent to him, even when he was small; and yet it became an obsession to him.

"What if to a dog all dogs look like men and all men look like dogs? And what if a dog looks at me and thinks that I am the dog and he is the boy." And this was followed once by the shattering afterthought: "And what if the dog is right?"

"What if a fish looks up at a bird, and a bird looks down at a fish. And the fish thinks that he is the bird, and the bird is the fish, and that he is looking down on the bird that is really a fish, and the air is water and the water is air.

"What if, when a bird eats a worm, the worm thinks he is the bird and the bird is the worm. And that his outside is his inside, and that the bird's inside is its outside; and that he has eaten the bird instead of the bird eating him."

This was illogical. But then how does one know that a worm is not illogical. He has much to make him illogical.

And, as he grew older, Charles Cogsworth came on many signs that the world he saw was not necessarily the world that others saw; and smaller but persistent signs that every person who lives lives in a different world.

IT WAS EARLY in the afternoon, but Charles Cogsworth sat in darkness. Gregory Smirnov had gone for a walk in the country as he said that he would. He was the only one who knew that the experiment was being made. He was the only one who would have agreed to the experiment, though the others, on another pretext, had permitted their brain-wave dossiers to be compiled.

All beginnings come quietly, and this one was an unqualified success. The sensation of seeing with the eyes of another is new and in a way glorious, though the full recognition of it comes slowly.

"He is a greater man than I" said Cogsworth. "I have often suspected it. He has a placidity which I do not own, though he has not my fever. And he lives in a better world."

It was a better world, greater in scope and more exciting in detail.

"Who would have thought of giving such a color to grass, if it is grass? It is what he calls grass, but it is not what I called grass. I wonder I should ever have been content to see it as I saw it. And it is a finer sky than I had known, and more structured hill. The old bones of them stand out for him, and they did not stand out for me; and he knows the water in their veins.

"There is a man walking towards him, and he is a grander man than I have ever seen. Yet I have also known the shadow of this man, and his name is Mr. Dottle, both to myself and to Gregory. And I had thought that Dottle was a fool; but now I know that in the world of Gregory no man is a fool. I am looking through the inspired and almost divine eyes of a Giant, and I am looking at a world that has not yet grown tired."

FOR WHAT seemed like hours Charles Cogsworth lived in the world of Gregory Smirnov. And he found here, out of all his life, one great expectation that had not failed him.

And after he had rested a while, then he looked at the world with the wide eyes of Gaetan Balbo.

"I am not sure he is a greater man than I, though he is a wiser man. Nor am I sure that he looks into a greater world. I would not willingly trade for his, as I would for that of Gregory. Here I miss the intensity of my own. But it is fascinating and I will enjoy returning to it again and again. And I know what eyes these are. I am looking through the eyes of a King."

And later he saw with the eyes of Theodore Grammont, and felt a surge of pity.

"If I am blind, compared to Gregory, then this man is blind compared to me. I at least know that the hills are alive: he believes them to be imperfect polyhedrons. He is in the middle of a desert, and is not even able to talk to the devils who live there. He has abstracted the world and numbered it, and doesn't even know that the world is a live animal. He has built his own world with great complexity. but he cannot see the color of its flanks. This man has achieved so much only because he was denied so much at the beginning, I understand now that even the finest theory is nothing but a fact gnawed on vicariously by one who has no teeth. But I will return to this world too, even though it has no body to it. I have been seeing through the eyes of a Blind Hermit."

DELIGHTFUL and exciting as this was, yet it was tirg. Cogsworth rested for a quarter of an hour before he entered the world of E. E. Euther. And when he entered it, he was filled with admiration.

"An ordinary man could not look into a world like this It would drive him out of his wits. It is almost like looking through the eyes of the Lord who numbers all the teathers of the sparrow and every mite that nestles there. It is the interconnecting vision of all the details. It appalls. It isn't an easy world even to look at. Great Mother of Ulcers! how does he stand it? And yet I see that he loves every tangled detail, and the more tangled. the better. This is a world in which I will be able to take only a clinical interest. Somebody must hold these reins, but happily it is not my fate. To tame this hairy ou beast we live on is the doorn of Euler. I look for a happier doom."

. He knew he had been looking through the eyes of a General.

The attempt to see into the world of Karl Kleber was almost a total failure, The story is old of the behaviorist who would study a chimpasee. He put the curious animal into a toom alone and locked the door on it. Then, after he had

given it time to adjust, he went to the keyhole to spy on it. And the keyhole was completely occupied by the brown eyeball of the chimpansee spying back at him.

Something of the sort happened here. Though Karl Kleber was unaware of the experiment, yet the seeing was in both directions. Kle-ber was studying Cogsworth in those moments by some quirk of circumstance. And even when Cogsworth was able to see with the eyes of Kleber, yet it was himself he was seeing.

"I am looking through the eyes of a Peeper" he said. "And yet, what am I myself?"

IF THE WORLD of Gregory Smirnov, first entered, was the grandest, now that of Edmond Guillaumes—which he entered last but one—was in all ways the meanest. It was a world seen from the inside of a bile duct. It was not a pleasant world, just as Edmond was not a pleasant man. How could one be other than a sceptic who all his life had seen nothing but a world of rubbery bones and bloodless flesh,

clothed in crippled colors and obscene form.

"The mole of another world would be nobler than a lion of his" said Cogsworth. "Why should one not be a critic who has so much to criticise. Why should one not be an unbeliever faced with the dilemma of accepting that this unsavory world was made by God, or hatched by a cross-eyes osstrich?"

But Cogsworth was unable to feel even pity here; nothing but contempt,

"I have looked through the eyes of a Fool into a fools' world" he said.

And as he rested again he said, "I have seen the world through the eyes of a Giant, of a King, of a Blind Hermit, of a General, of a Peeping Tom, of a Fool, There is nothing left but to see it through the eyes of an Angel.

Valery Mok may or may not have been an angel. She was a beautiful woman; and Angels, in the older and more authentic commonly depicted as rather stern men.

Valery wore a look of per-

petual amusement, and was the embodiment of all charm and delight—at least to Charles Cogsworth. He believed her to be of a high wit; and yet, if driven into a corner, see would have been unable to recall one witty thing she had ever said in her life. He regarded her as of a perfect kindness; and she was more or less on the agreeable side. Yet, as Smirnov might have put it, she was not ordinarily regarded as extraordinary.

And it was only quite lately that Cogsworth had become sure that it was love he felt for her rather than bafflement. And, as he had despaired of ever understanding her by regular means, though every one else understood her easily enough as much as mattered, he would now use rrregular means for his understanding.

He looked at the world through the eyes of Valery Mok, saying "I will see the world through the eyes of an Angel,"

A change came over him as he looked and it was not a pleasant change. He looked through her eyes quite a while, not perhaps as long as he had looked through the eyes of Gregory Smirnov—but yet for a long time, unable to tear himself away. He shuddered and trembled and shrank back into himself.

And then he let it alone, and buried his face in his arms.

"I have seen the world through the eyes of a pig" he said.

CHARLES COGSWORTH had spent six weeks in a sanatorium, which however was not called such. He had given the world his second great invention, and its completion had totally exhausted him. As in many such mercurial temperaments, the exaltation of the discovery had been followed by an interiude of deep despondency on its completion.

Yet he was of a fundamentally sound constitution, and he had the best of care. But when he recovered, it was not into his old self; for now he had a sort of irony and smiling resignation which was new to him. It was as though he had discovered a new and bitterer world for himself in looking into the worlds of others.

Of his old intimates, only Gregory Smirnov was still close to him.

"I can guess the trouble, Charles" said Gregory. "I rather feared this would happen. In fact I advised against her being one of the subjects of the experiment. It is simply that you know very little about women."

"I have read all the prescribed texts. I took a six week seminar under Zamenoff. I am acquainted with almost the entire body of the work of Bopp. And I have spent nearly as many years as you in the world—and generalby I go about with my eyes open. I surely understand as much as is understandable about them."

"NO. THEY are not your proper field. I could have predicted what has shocked you. You had not understood that women are so much more sensuous than men. But it would be better if you explained just what it was that shocked you."

"I had thought that Valery was an Angel. It is simply that it is a shock to find that she is a pig."

"I doubt if you understand pigs any better than you understand women. I myself have only two days ago had a pig's eve view of the world, and that with your own Cerebral Scanner, I have been doing considerable work with it in the several weeks that you have been laid up. There is nothing in the pig's-eye world that would shock even the most fastidious. It is a dreamy world of all-encompassing placidity, almost entirely divorced from passion. It is a gray. shadowy world with very little of the unpleasant. I had never before known how wonderful . is the feel of simple sunlight and of cool earth. And yet we would soon be bored with it. But the pig is not bored."

"You divert me, but you do not touch the point of my shock. Valery is beautiful. or was to me before this: She seemed kind and serene. And always she appeared to contain a mystery that amused he vastly, and which I suspected would be the most wonderful thing in the world when I once understood it."

"And her mystery is that she lives in a highly sensuous world and enjoys it with complete awareness? And it is that which has shocked you?"

"You do not know the depth of it. It is ghastly. The colors of that world are of an unbelievable coarseness, and the shapes reek. And the smells are the worst. Do you know what a tree smells like to her?"

"What kind of tree?"
"Any tree, I think It was an ordinary elm."

"THE SLIPPERY elm has a pleasant aroma in season. The others to me have none."

"No. It was not that. Every tree has a strong smell in her world. This was an ordinary elm tree, and strangely it had a violent musty, obscene smell that delighted her. It was so strong that it staggered. And to her the grass itself is like clumps of snakes, and the world itself is flesh. Every bush is to her a leering satyr,

and she cannot help but bump into them. The rocks are spidery monsters, and she loves them. She sees every cloud as a mass of twining bodies, and she is crazy to be in the middle of them. She hugged a lamp post, and her heart beat like it would fight its way out of her body. She crn smell rain at a great distance and in a foul manner, and wants to be in the middle of it. She worships every engine as a fire monster.

"She hears sounds that I had thought nobody could ever hear. Do you know what worms sound like inside the earth? They're devilish, and she would writhe and eat dirt with them. She can rest her hand on a guard rail, and it is an obscene act when she does it. There is a filthiness in every color and sound and shape and smell and feel."

Smirnov smiled, "And yet she is but a slightly more than average attractive girl, given to musing, and with a love of the world and a closeness to it that most of us have lost. She has a keen awareness of reality and of the grote-squeness that is its main mark. And you do not have this as deeply when you encounter it in its full strength, it shocks you."

"You mean this is normal?"

"There is no normat. There is only differe.ces. When you moved into our several worlds they did not shock you to the same extent, for most of the corners are worn off our worlds. But to move into a pristine universe is more of a difference than you were prepared for."

"I cannot believe that this is all it is."

CHARLES COGSWORTH would not answer the letters of Valery Mok, nor would he see her. And yet the letters were amusing and kind, and carried a trace of worry for him.

"I wonder what I mell like to her?" he said. "Am I like an elm tree or a worm in the ground? What color am I to her? Is my voice obsene? She says she misses the sound of my voice. It should be possible to undo this. Am I also to her like a column of snakes or a congerie of spiders? For he

wasn't well yet from what he had seen.

But he did go back to work, and nibbled at the edges of mystery with his fantastic device. He even looked into the worlds of other women. It was as Smirnov had said: they were more sensuous than men, but none of them to the shocking degree of Valery. And he saw with the eyes of other men and of animals; the soft pleasure of the fox devouring a ground squirrel, the crude arrogance of the horse, the intelligent tolerance of the mule, the voraciousness of the cow, the miserliness of the squirrel, the sullen passion of the catfish; nothing was quite as might have been expected.

He learned the jeatousy and hatred that beautiful women hold for ugly, the untarnished evil of small children, the diabolic possession of adolescents. He even by accident saw the world through the fleshless eyes of a poltergeist, and through the eyes of creatures that he could not identify at all. And he found nobility in off-places that almost balanced the pervading baseness.

But mostly he loved to see the world through the eyes of his friend Gregory Smirnov, for there is a grandeur on everything when seen with a Giant's eves.

AND ONE day he saw Val-ery Mok through the eyes of Smirnov when they met accidentally. There was something of his old feeting that came back to him and even surpassed his former regard. She was magnificent here, as was everything in that world. And there had to be a common ground between the wonderful world here with her in it, and the hideous world through her own eyes.

"I am wrong somewhere. It is because I do not understand enough. I will go and see her." But instead she came to see him.

She burst in on him furiously one day. "You are a stick. You are a stick with no blood in it. You are a pig made out of sticks. You live with dead people. You make everything dead. You are abominable."

"I a pig, Valery? Possibly. But I never saw a pig made out of sticks!"

"Then see yourself. That is what you are." "Tell

me what this is

about.'

"It is about you. You are a pig made out of sticks, Charles. Gregory Smirnov let me use your machine. I saw the world the way you see it. I saw it with a dead man's eyes. You don't even know that the grass is alive. You think that it's only grass."

"I also saw the world with your eyes, Valery."

"Oh-is that what's been bothering you? Well, I hope it livened you up a little. It's a

livelier world than yours." "More pungent at least."

66T ORD, I should hope so. I don't think you even have a nose. I don't tnink you have any eyes. You can look at a hill and your heart doesn't even skip a beat. You don't even tingle when you walk over a field."

"You see grass like clumps of snakes."

"That's better than not even seeing it alive."

"You see rocks like big spiders."

"That's better than seeing them like only rocks. I love snakes and spiders. You can watch a bird fly by and you can't even hear the sruff gurgling in its stomach. How can you be so dead? And I always liked you so much. But I didn't know vou were dead like that."

"How can one love snakes and spiders?"

"How can one not love anything? It's even hard not to love you, even if you don't have any blood in you. By the way, what gave you the idea that blood was that dumb color. Don't you even know that blood is red?"

"I see it red."

"You don't see it red. You just call it red. That silly color isn't red. What I call red is red."

And he knew that she was right.

And after all how can one not love anything? Especially when it becomes very beautiful when angry, and when it is so much alive that it tends to shock those who are partly dead by its intense awareness.

Now Charles Cogsworth was

a scientific man, and he believed that there are no insoluble problems. He solved this one too, for he had found that Valery was a low-flying bird, and he began to understand what was gurgling inside her. And he solved it happily.

He is working on a Correlator for his Scanner now When this is perfected, it will be safe to give it to the public. You will be able to get a set in about three years at approxi-

mately the price of a medium sized new car. And if you wait another year, you may be able to get used ones quite reasonablv.

The Correlator is designed to minimize and condition the initial view of the world through other eyes, to soften the shock of understanding others. Misunderstandings can be agreeable: but there is something shattering about sudden perfect understanding.

### 3 Ilmisual Tales of Tomorrow

THE COFFIN SHIP ..... Bill Wesley the man, and one man only, was awake on this star-skip. And that single man was the one who knew nothing about the ship and had no ldea as to why he was awakened, or what he was supposed to do about the fact.

DAY OF THE GLACIER . R. A. Lafferty The Fifth or Zurichthai glaciation of the Pleistocene began on the morning of April 1, 1962. That was when the snow started folling. And it districts op

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# Passage To Sharanee

Novelet by Carol Grey

Who was the inscrutable passenger aboard the Moth? And what was the secret behind Mona Holloway's missing jewel?

HE STARS are flecks of white sand sprinkled over a velvet gown, she thought as she stood by the port, her eyes searching the trackless space-deeps outside the tiny ship. She had never been away from Earth before. Somewhere behind her (or was it below, or above?) it spun, faintly glowing, an impossible balloon in a dark room filled with fire filies. Only, her thoughts modified, it must be

a phosphorescent balloon. Perhaps if she reached out far enough, she could touch it, send it bouncing away on a tangent.

There were no two ways about it. For all the strangeness and gripless terror of it, space-flight was phenomenally unreal. She could never believe that, at some abrupt point, she wouldn't awaken to find herself back in her apartment in New York.



Suddenly the vision came - and the men knew what they must do ...

A faint cough at her side snapped the fine thread of reverie. She turned, half resentful at the intrusion; half glad to see another human being.

"Impressed, miss?" The speaker, she saw, was a somewhat overgrown oollege boy with a sardonic air. No, that was wrong. The second impressions swept over her, correcting, discarding. This was no boy. Perhaps on Earth—or in Sharanee, the Mars port whence came her summons the youth in him would be dominant; but here in space he dominant is the tree in space he was hard, ageless, sheathed in a flexible calm.

She smiled faintly, shrugged her shoulders a bit. "I'm sorry, Mr. Crane, but I just can't believe it." She nodded to the scene beyond the port.

He nodded. "Few do. This is your first trip out. After you've made a half dozen or so you'll begin to compromise with your reason and end up to wondering whether this, or the planets be the illusion. And when you have come to accept this, you'll never be able fully to believe in the security of Earth (or Mars) again; every

little elevator trip—any little thing at all and you'll expect the planet to go bouncing out beneath you. Once space gets in your blood, it will never let you free."

"Is that the way it is with you—you don't feel right unless you're somewhere between worlds?"

"In a way." He frowned slightly. "And yet that isn't quite the right answer. I keep on feeling that I know what it is, like a word that's on your tongue but can't be spoken.

"I came to tell you that the skipper wants to see you. I think we've found your jewel."

"Oh!" A ripple of delight ran through her, even while she half wondered at it. Jewelry really meant nothing in this day. She'd read of how people had gone mad over it in the old days, and of the well-nigh incredible crimes that had been committed for the possession of it.

BUT THIS—thing—was different. It had been totally unlike anything sheathad ever seen before. There it had been, staring out at her from a little shop window, and she had known immediately that it must be hers alone. A fascination and a secret lay within the depths of it; it called to her and she responded. Strangely enough, the shopkeeper had apparently thought nothing of it, for he had asked next to nothing for it.

"Where was it-found?" she asked.

"One of the crew brought it in. We checked up rather carefully and it is definite that no one took it from you. We set a trap for a possible thief, and no one bit. Frankly, I can't see why anyone should care about it, miss, but it's your property, so we're doing what we can to ensure its safety."

"Thank you," she murmured.

He nodded pleasantly and led
the way to the control room.

CAPTAIN VERNARD, Crane noted, was somewhat the worse for lack of sleep. Could the old man have an inkling of what was up? Certainly the silly affair of Miss Holloway's jewel couldn't be bothering him. Quickly Crane ran over the events of the past few days, since the moment he had come to his decision to take the ship. Had there been any overt moves? No, he was quite sure there had not. He sought the skipper's eye.

"Is there something wrong, sir?" he asked quietly.

Vernard looked up. "I've a hunch," he replied. "You come to believe in them after you've been a spaceman long enough. There's something wrong on this ship."

"But this ridiculous little bauble," protested Crane. "Surely, you can't be worried over it. Anything might have happened. Perhaps Miss Holloway lost it some time before it was missed.

"It doesn't look valuable in fact, it doesn't look like a jewel at all. Benson is probably telling the simple truth when he says he found it in the passageway, put it away intending to bring it to you the moment he went off duty, and forgot about it until today."

"I'm not doubting Benson's story," replied Vernard. "It's something far less tangible than any trinket. But we can't arrive in Sharanee any too soon for me."

We'll never arrive in Sharanee, thought Crane. Never be bound to this dull, tedious inter-world traffic again. We'll be free, free to wander the reaches of space as we choose, taking what we want from whatever source is convenient, raiding ships and stations if necessary. Like the corsairs of old. Vernard's next words interrupted his thoughts.

"You may think me arriving at this is an order. Keep alert. Be on the lookout for any unto-mard cocurrences and report to me anything med your on matter how trivial—that is not exactly as it should be. Perhaps my hunch is wrong; perhaps not. But there's something strange on this ship, and I've got to find out what it is before it becomes dangerous."

THE CAPTAIN was already in a dangerous state, decided Crane. But he couldn't afford to strike yet. "I might suggest, sir, that Miss Holloway's presence is somewhat irregular. Could this be the cause of your premonitions?"

"Miss Holloway's presence does admit problems," conceded Vernard. "But this is something entirely explainable, Miss Holloway's family is high in Martian diplomatic circles. For some reason not to be sought after by us, they want her with them immediately. It was urgent that she take the first ship out, and we were it. No, Crane, what worries me is not anything as tangible as Miss Holloway, It's something elusive, something I can't lay a finger on."

"Any further, specific orders, sir?"

"Not at present."

Crane nodded and left the control room, his eyes darting up and down the passageway. The control room was so situated that it could be taken with ease if the attack were a complete surprise; but if the defenders were prepared, it would become a difficult task. He glanced at his chronometer. Sterling would be off duty now. Whistling abstractedly, he made his way down to the

crew's quarters, tapped on the men's door.

"ANY REPORT?" Crane asked as the heavily

built, blond man closed the portal behind him.

"Nothing, sir, except that we're ready any time. We've managed to find out just who is with us and who isn't.

"It's strange, sir, Here I've been a regular spaceman for years, perfectly satisfied with routine. No complaints about the pay, the food, the work, or the length of some of the trips. And now, suddenly, I want to be free of it. Not free of space. sir. Free to roam around from planet to planet with a crew who feel the way I do about it -iust as you, sir. I can't understand it. Neither can the rest of us."

Neither can I, thought Crane. Lord knows if anyone had told me a week ago that I'd be planning mutiny, and perhaps the death of men, so I could become a vagabond in space, I'd have thought them mad, "We're just fed up, "Sterling," he replied, "It took a long time to get that way, but we finally

reached the point where we're ready to do something about

"When do we move?"

"After we've checked at Lunar Station. Then by the time the ship is missed, we'll be safely away. They won't know where to look. Even if they did know, it would be a pretty nearly hopeless job finding us in space. But we take no unnecessary chances.

"And you, Sterling, pass the word on. There must be no overt moves of any kind until we're ready to take the ship. It has to be done quickly, and in one stroke. The skipper's suspicious as iteis."

"He suspects?" Sterling's voice was frightened, "You mean someone has given it away?"

"No. He doesn't know what's wrong; he just thinks something is wrong." And, Crane added mentally, I think he's right. There's something strange on this ship.

THE OTHER was silent a a moment, then, "You know, sir, there are some who think that girl's a jinx."

"Do you?"

"Do you know who?"

"Gerhard and Julian to my knowledge. They're old hands. Perhaps others. I'll find out by the end of the next shift."

"Good. We must know who can and who can't be trush. A superstitious man is a dangerous man—who is likely to become afraid and betray at any moment. Find out who these weak links are and well purge them. I think it would be best if they fell in the battle for the ship. There will be some loyal to the skipper, you know, and we can't expect to take control without having a little blood spilled."

"Right you are, sir. But what about this girl. You don't have to be superstitious to know that, with all of us, one woman would cause trouble."

Crane stared into emptiness for a moment. "It's unfortunate in a way, but we'll have to let her go. Put her and the captain together in a lifeboat, if he's sensible enough not to resist. If not—some loyal member of the crew who survives." II

HE FACETED thing lay upon Mona Holloway's smoking stand set close to her bed, mysterious, elusive. As she tossed in the web of dreams, something of it seemed to enter into and become a part of her; vet what it was, even in that unrestricted state, she could not know. She dreamed of Earth and the iewel was a second moon in the sky, filling the expanse of the azure: she walked dark and secret paths, and the jewel was a will-o'-the-wisp leading her on into forgotten places; she was a space-waif, born free between the worlds, and the jewel was her meteoric steed which laughingly she rode astride as other waifs clustered about her, and, last, she was a woman immortal searching through the labyrinth of time for a secret, and the jewel was the portal to each new timelane.

Brighter, swifter, swirled the visions and the hidden desires of her. And always the jewel was there, sometimes emitting whorls of mist that whispered a soundless summons, And just before she awoke suddenly, filled with unreasoning terror, a final dream stole through her, a dream which, almost instinctively, she knew was one that the thing did not mean to send.

This last dream was very clear, sharply etched. She was walking down the corridor to her cabin on this ship, the Moth, and suddenly the thought came to her that she should open the door barely enough to see within, and watch. She hadn't locked her door, so this would be fairly simple.

As she stood there, leaning against it, trying not to breathe loudly, her eyes glued to the tiny crevice, she heard someone coming. The impulse to slip inside the safety of her cabin overwhelmed her. But—wait.

This had happened—this had happened—this time, she would keep her eyes fixed to the vantage coint and see what was happening within her room.

SHE COULD see the bureau in her room. The jewel was

resting on it, she gasped, partly in delight and partly in fear. For it had been lost. She watched it, gazed deeply at the strange radiance of it, one which no one else seemed to notice. And—it was gone.

With a half-stifled scream she swept into the room, unbelieving. No one was there save herself. Everything else was in order—wait, hadn't she asked them to replace that broken stool? Annoyed ly she put through a call and waited until a knock came on her door and the offending bit of furniture was taken away.

That was all. Now, just as suddenly she was awake, the last dream still clear in her mind. What was the meaning of it? It corresponded exactly to an occurrence of a few days before, except for one thing. She had not actually seen anything from without her door; she'd slipped inside when she heard someone coming. Then, after the inexplicable fear had gone away, she'd noticed that the broken stool had not been removed. From that point on the dream again mirrored realitv.

But, the jewel. She had lost it the first day out, and Captain Vernard had just returned it to her this evening. One of the crew had found it, hadn't thought it of any consequence and had forgotten to turn it inght away as was his duty. Captain Vernard had apologized, and the offender had been reprimanded.

She sat up suddenly, clutching her breast, trying to still the hammerlike pounding of her heart. Faintly in the darkness, the jewel on the stand beside her glowed, shimmered, glowed. With a sudden impulse se seized it and clasped it to her. A spasm of grief shook her and she fell back upon the bed, sobbing uncontrollably.

IN THE crew's quarters, the man called Benson leaned forward confidentially, his voice falling to a whisper.

"I wasn't exactly telling the truth when I told the skipper I'd forgotten about the girl's jewel. I had it right with me all the time until suddenly I got the feeling that it had to go back. But all the time it was in my pocket I could hear something whispering to me. And

then I'd dream nights..."

Sterling nodded, "So did I.

So did the rest of us, eh?"

A low chorus of assent

A low chorus of assent greeted him.

"There's more queer things than a jewel on this ship," spoke up Forrester, "The Moth has suddenly accumulated one newly-repaired stool that it never had before. The other day, we got a call to take a broken stool from the girl's room for repairs. Not more than an hour after Gerry brought it down to me, in comes the same call again, and down comes Gerry with another stool exactly like it. So I fixed the two of them." The speaker sucked on his tobaccotube a moment, then turned to the tousled-headed youngster in the corner. "Did you take both of those stools back to Miss Holloway, lad?"

The gangling youth pushed his cap back on his head and stared. "Cripes, no. When I went to look for them, I could only find one. And no one had taken the other one up to the jane's room, either. Thought you'd taken care of it yourself."

"The damn skirt's a jinx," muttered the slim, dapper man sitting on the bunk. "When we take the ship, I say shove her into a lifeboat and cast her off. Give her what she needs to get to Lunar Station and to hell with her. Women are all jinxes;"

Sterling glared, "We'll settle the problem of the passenger later. In the meantime, it's understood that she's to be treated with respect—and you, Julian, if you come in contact with her in any way, watch your step. You know how women are—if you make a break, she's likely as not to be fluttering into the skipper's room with tales. The old man's got the litters as it is."

"Don't worry about me," growled Julian. "True been around. I treats 'em with courtesy and clears away fast as soon as I can. Women are snakes, all of them and harder to kill than any cat. All raw asking is that this one be got rid of as soon as possible. Then we'll be free, and not until."

"Free!" whispered Benson.
"Yes, that's what we'll be. All
of space for our own, and all

of time to wander around in it. No more routine between Earth and Mars. We'll have to work, but we'll be doing it for ourselves, and we can get together and decide today's a holiday if we want to, and no one can say, 'get back to work.' We'll be free."

"DIRECT call for you, sir," said Crane, moving aside for the captain.

Vernard spun the dials of the telescreen until the image was clear. It's odd, thought Crane, that nearly every person has to make some little shift before the screen is quite satisjactory. He stopped musing as the image of Altmeyer, chief of Lunar Station, appeared.

"Vernard? Got a special request here for you. Can the Moth accommodate a passenger? There's a person here who wants passage to Sharanee. Claims it's urgent."

"We have one passenger," replied Vernard. "The Moth could accommodate a couple more if necessary, but I want to see the applicant first. We're not a liner, you know; I can be choosey if I want."

"He's a rather odd duck,"

confided Altmeyer, "but he seems to be all right. Most amazing conversationalist, captain, most amazing.

"Let's see him."

The station chief turned away and called to someone outside the line of vision. For an instant only the room and apparatus was visible, then a man stepped in front of the screen and bowed slightly.

# "CAPTAIN VERNARD?"

His voice was well modulated, refined without being snobbish, bearing the vaguest trace of an indefinable accent not unpleasant on the ears. As he straightened up, Vernard saw that he was apparently entering middle age, well-built, seemingly forceful in personality, and rugged in appearance. There was more to him than met the eye; this much Verrand gathered at a glance.

But there was something lese, too. Something Vernard could not define, yet which told him that this man was not exactly what he appeared. Vernard felt, almost instantaneously a commingled respect and dislike for the stranger.

"You probably haven't heard of me before, captain. My name is Strachey. Without going into purely private matters at the moment, I'll merely state that it is vital that I take passage to Sharanee on your ship, And I assure you I can make it worth your trouble."

Vernard hesitated, thinking of purely private matters of his own, and in that moment lost his chance.

"Are there any objections to this procedure, sir?" asked the stranger.

"I'll consider it, Mr. Strachey," he replied. "We'll be at Lunar Station in about half an hour. We haven't much time. Are your effects ready? Papers in order?"

"I am quite prepared, sir."

"Very well, then. I shall defer my final decision until I have examined them."

Vernard closed the interview with the conventional salutations, snapped the circuit, and turned to Crane. "The Moth." he observed, "seems to be changing its character. Perhaps I should apply for a straight passenger license—urgent cases only."

SLOWLY the gleaming poly-hedron that was the Moth eased its mass down into the waiting cradle on Lunar Station and routine checking of cargo began as Vernard, Crane, and Altmeyer exchanged small talk and discussed current events. A brief period of chartexaminations, then the stranger's papers were checked, approved, and required supplies were loaded on. Deep within himself. Crane fumed at the problem this new addition to the Moth's personnel added, as the outer doors swung shut and the pilot slid on the power.

In her cabin, Mona Holloway slept dreamlessty, her empty hand lying open outside the blankets. There was no glow emanating from the nearby smoking stand.

#### III

OU'VE traveled in space a great deal, haven't you, Mr. Strachey? Tell me, does all this," Mona indicated the visible cosmos with a sweep of her hand, "seem commonplace to you now?"

"One does become accustomed to it. Yet I wouldn't say it's commonplace. That would imply that you can ignore it. No one can do that.

"There's beauty, mystery, and terror in space, Miss Holloway. You cannot separate the three. They all belong together, fit perfectly one into the other. At times a sense of one seems to flood you, but it never completely blankets out the other two. No matter how breath-takingly lovely a particular view from one of these ports may be, you can't help but feel a sort of-broodingquality about it, and perhaps lurking fear hiding just behind what attracts you."

She gazed out into the velvety deeps again. "But what is there to harm us? I mean, deliberately. Of course I realize there's danger—if anything unforeseen occurs, we are helpless and the chances of rescue are never very good. I know that. But you implied something else."

"There are so many things you do not understand—or know," he whispered, half to himself. "So many things that I do not know. It would not be so bad if the danger came from something that was trying to hurt us. Then it could be understood (even if only after great difficulty) and combatted. It's the blind, impersonal forces...

"Consider a great mass hurtling through this darkness, a mass itself dark and well nigh indectable because of properties which make it outside of your instruments' ability to discover. And you want to go home. But this blind, hurtling mass, which has never heard of you, can in a single instant shatter you completely—or, perhaps it can just as easily help you."

Somehow she knew that he was talking to himself. For an instant she thought she saw something lonely and yearning in the man beside her and her hand reached out almost unthinkingly and grasped his. "You're—homesick?" She was half afraid he would be offended.

"Yes. It has been-a long time."

"How long?"

He gripped her hand more

firmly. "Too long. Much too long. Come." He turned away, taking her arm in his easily as they started down the passageway. "You are tired, Miss Holloway. Shall we talk again later—tomorrow?"

She dreamed of the jewel again that night, but this time it seemed to bear a faint resemblance to a human face. The face of Strachey. She was standing on a small asteroid in space and the Strachey-jewel was a great planet, filling the entire vista before her.

A FAINT tapping on her stateroom door aroused Mona. Brushing aside the shards of her dream, she sat up, then slipped into her dressing gown and hastened to the door, opening the recognition-slot.

"Miss Holloway," came a familiar voice, "get dressed quickly and join me. There's danger."

Something in Strachey's tones left her without doubt as to his good faith; she dressed quickly and 'emerged. Before she could form the question on her lips, he had pressed his fin-

gers gently over her mouth and was leading her away, up to the deserted deck where they had conversed earlier in the evening.

"Is your chronometer running?" he asked.

"Of course, What has happened?"

For an instant she felt that his eyes were literally piercing her, stripping, not the clothing, but the flesh from her, driving deep into the very atoms of her searching for the dead center of her being. For an instant the scene before her blurred, and she thought she saw the Strachey-jewel poised in midair before her; then sanity returned, as his calm tones filled her ears.

"You strike me as a particul'arly level-headed person, Miss Holloway. That is why I brought you here, and that is why I shall leave you here. Alone, you understand. You are to do nothing, to see and hear nothing for approximately three quarters of an hour. At the end of that time, you will return to your stateroom and gather your belongings together, preparing to leave ship." The man was mad, clearly. She stifled a gasp, remembering his opening words; she must continue to strike him as "particularly level-headed." She looked at him, as if seeing him for the first time, her eyes sympathetic. After all, how could she expect to know this man after but a single day, regardless of the affinity which had seemed to spring up between them.

"May I know why?" she replied softly.

A FAINT explosion down the corridor answered her; she stiffened, her hands clasping the rail. "There is your answer," he murmured, nodding in the direction of the outburst. "Mutiny."

"What will they do to—us?"
"That is what I must discover. You will be safe here
because, even if they have time
to look for you in the next hour
or so, they won't think of this
place. It doesn't make sense for
you to be here where anyone
coming along might see you. I
know how their minds work.
They'll expect you to be hiding. So, what you do, is just

stay here in the shadows, and don't make any noise. I'll be back."

"Are you going to take part in the—defense?"

"And be filled full of missiles so that I resemble a sieve? No. Neither is the captain, unless he is a total fool. And he can't hold them off alone, even if he tries."

"But—what about Mr. Crane?"

"The first mate: He's busy very busy leading the attack. Now let space see what you're made of until I come back."

She clasped his hands suddenly. "You will come back?"

He nodded, then swung away abruptly, disappearing into the gloom. She watched him, a sinking feeling stealing through her. She must wait alone, in the dark. And as she watched the faintly luminous did of her chronometer new mysteries popped into her head to torment her. How had Strachey known about the mutiny? How had he found out that Crane was leading the attack? Or was it Crane?

Mutiny-it seemed so-obsolete. Like that strange, horrible practice men had engaged in for centuries until the world federation was established, and, as everyone knew, the history of man begun. What was it—this practice which ran through all the dealings of the dawn men, right up through the 21st Century? Oh yes, that was it—a little word: war.

IT DID not occur to her to question Strachev's simple contention that she could return to her stateroom in safety when the allotted three-quarters of an hour was up. Despite the questions which flooded her being, she felt an indefinable security in his words as she hurried along the corridors to her stateroom and hastily slipped in. Nor again did the prospect of abandoning ship trouble her -beneath all the puzzlement remained that unshakable belief in him to see her through, not only for her sake, but because he needed her. Intuition supplied that last kernel of information: Strachev's need of her was not the simple psychological need of a man for a woman in time of stress; it

struck to the very core of all this mysteriousness, a vital, cosmic thing.

Beyond this certainty she could not—subconsciously would not—think. Hastily, carefully, she packed her belongings, taking only the breeze essentials. A knock on the door sent her flying to the recognition port. Eagerly she slipped it aside, then the brightness slipped away.

"Oh," she said disappointedly. "You!"

"Please open the door, Miss Holloway," came the voice of Crane. "You are in no danger unless you bring it on yourself by foolish attempts."

He looked older, she thought, as she opened the door silently; the boyishness she had first seen was gone. Perhaps it would come back again some day when all this was only a memory, but now it was still too stark, too abrupt a cleavage with all he had, known and done and thought in the past. She felt sorry for him.

He looked around at the scene of preparations for departure, a puzzled expression on his face. "Has someone else

been here, Miss Holloway?"
"What do you want with me,
Mr.—or is it Captain Crane?"

"Titles don't matter now," he replied softly.

"Why did you do it?"

"I had to. Don't ask me why, but one day, not long ago, I knew I had to take the ship." "Is the captain..."

"No," he interrupted quickly. "Captain Vernard is unharmed. There was a little fighting among some recalcitrant members of the crew. A couple of our men were hit. That is all.

"You, Captain Vernard, and Mr. Strachey will be given the lifeboat with full supplies and equipment to reach Lunar Station. I think the crew members who resisted will be sent with you, too. The boat must not be overcrowded, but that will be worked out."

She leaned back against the bureau, her mind suddenly numb, "But what will become of you?" she gasped. "What can you and your crew do here, alone, in space? Where can you find a world to go to? And what will you do all the time in soace?"

HE SHOOK his head. "I don't know. It seemed

don't know. It seemed very clear yesterday—now, I

"There are worlds—beyond the edge of the explored universe. Perhaps we will go there. Perhaps we will find—something. All I know, Miss Holloway, is that we cannot go on as

we were before. We—chose this way."

"Mr. Crane," she found herself saying suddenly, "my jewel is gone again."

"I'm afraid it's gone for good, then. There isn't time to search. What was it to you? A keensake?"

"No," she said softly. "I'm glad it's gone. It gave me strange dreams and made me afraid. Sometimes I seemed to think it was directing me, making me do things without my knowing why I did them."

This was striking home, she saw. "What did you dream, Miss Holloway? Was the jewel a part of your dreams?"

"Yes. It was everywhere sometimes up in the sky like a titanic eye watching me, never letting me out of its sight. Did you ever have dreams like that, Mr. Crane?"

He smiled wanly. "I don't remember very well. Some of the men have been troubled this trip, but mine weren't too bad." "Did the iewel whister to

them, too?"
"Yes..." his voice trailed

off and fell limply.

"Is that why you did it?"

"I had to." He turned away.
"As soon as you are ready,
Miss Holloway, come out to the
lifeboat. The party will be sent
off directly."

"Mr. Crane," she called after him. "Is-Mr. Strachey all right?"

He stopped and looked at her. "Yes; he's safe. By the way, Miss Holloway, didn't your jewel disappear just about the time that Strachey joined us?"

"How dare you!" she flared.
"Mr. Strachey would never!"

He shook his head. "You misunderstand me. I was not suggesting that he might have taken your jewel.

"I just remembered something about him that struck me as strange. His eyes are very much like your jewel. Miss Holloway. They seem to have the same indefinable quality." He shfuddered. "Sometimes I'm very thankful that I am not given to imaginative speculation."

He bowed slightly and left her in the grip of a sudden terror such as she had never known before.

#### IV

O ALL ships have solar models such as we this?" asked Mona. Vernard smiled. "The answer is yes. All ships must have them. Without the solar, navigating Earth's oceans blind-folded from the confines of a wheelchair on the main deck would be simple in comparison. And the odds, relatively speaking, would be infinitely higher that you would actually get where you wanted to go."

They stood before the model solar system in the center of the lifeboat. Inside the great dome, varicolored globes of varied sizes rotated slowly as they inscribed their various orbits around the central luminary. "We have here," continued Vernard, "only the major factors involved. Space is full so far as we are concernied, of minor factors. They are taken care of by the grav." He indicated an apparatus nearby, an outgrowth of the old gravitometers whose function it was to indicate the presence of any space body not allowed for in the solar.

"I've heard that spaceflight is just a matter of curves."

"An understatement, vet true nonetheless It's curves and velocities and accelerations and, just as important, decelerations. You build up to a peak, hit the dead spot, then star! slowing down immediately. The tiniest delay or offcenter spurt and nothing in the cosmos can keep vou from missing your objective. That's why that part of it is automatic. No human could possibly attain the continuous accuracy required. And even then, sometimes a ship misses. Once in a while it is recovered."

Mona shivered. "How can you endure it? I can understand a person like myself, knowing little or nothing about it, resting easily enough. We just assume that you spacemen know what you're doing, and, except in the event of unavoidable accidents, we'll be delivered safely. But you..."

"You get used to it after a while. What I can't understand is how the men who first started crossing Earth's oceans in leaky little tubs ever managed to take it."

"I SHOULD say," broke in Strachey, "that it was the inability of the human to correlate impressions properly, even to the limited extent of what it actually knows about a given subject.

"It is in this weakness that the human's greatest strength lies."

"You use the term 'human' somewhat oddly, sir," frowned Vernard.

Vernard.

"Merely the most scientific terminology, Captain."

I wonder, thought Mona, feeling Strachey's eyes upon her. The affinity she had felt for him at first seemed to have suffered an invasion of something she could not describe. She often caught herself won-

dering what Strachey looked like when no one was present to see him.

"Can I make arrangements for passage to Sharanee at Lunar Station, or will it be necessary to return to Earth?" Mona felt that she had to say something.

"I shouldn't be astonished," commented Vernard, "if you found some sort of arrangements awaiting you at the station. I've reported the situation, you know, and they have undoubtedly contacted Sharanee by now. I hope this delay will not affect you or your farmily to any serious degree."

"I think it will be all right," she smiled. "What about you, Mr. Strachey? Will you be going on to Sharanee?"

He shook his head. "No. There is no need now. There are more pressing matters for me now." He turned to Vernard. "May I have a word with you alone, sir?"

The Captain nodded and followed him into the next compartment. Strachey closed the door carefully. "There is no need to mention it before Miss Holloway, but we are in a dan-

gerous situation. I've been looking over the fuel. We are short."

Vernard's eyebrows went up.
"What do you know about
these matters? I checked the
fuel with Crane before leaving.
There was sufficient and to
soare.

"Which reminds me, Strachey. If you'll forgive my curiesity, just when did you board
the lifeboat? I don't see how
you could have done so without my seeing you. Yet I-know
well enough that I didn't see
you go aboard before me, nor
come aboard after me."

Strachey smiled. "I saw you when I came aboard. You and Crane were very occupied with immediate problems. It's not at all unlikely that you didn't notice me."

Vernard grimaced. "Perhaps."

"It would be rather—inconvenient to doubt me, Captain."

"Quite inconvenient. Good night, Mr. Strachey. I shall check the fuel at once, and you have my appreciation, sir, if you are correct. There may still be time, in such a case, to save ourselves."

A HALF hour later, Vernard looked old beyond his years. There could be no doubt that Strachey had been right. But he, Vernard, had personally checked the fuel with Crane, inspected every container of the vital element. Now, one of the major cases was missing. What could have happened to it? Sabotage? Untinkable. Not Crane, surely. And Strachey would not be so made as to—but even if he were, how could he...?

They would never reach Lunar Station now; they would go on into space finally plunging out of the system, unless some minor factor slowed them down, or they were caught in the drag of a planetary body. He would have to check the solar for their exact course.

On a sudden impulse, he went to Strachey's compartment, knocked on the door, There was no answer. For a moment he waited, then opened the door with the skeleton key he carried. The room was quite empty.

Quietly he went to the other

compartments, carefully inquiring, making sure no suspicions were aroused. Then he made a minute inspection of the little ship.

There was no doubt about it. Strachey had disappeared.

"StiT DOWN, Kingston," said Vernard. "You, too, Stirmer. Something has just occurred to me, and I want to tell you in order to see if you will be thinking what I am thinking when you've heard it."

A knock came at the door.
"May I come in?" called
Mona

Vernard admitted her. "I'm glad you came. Was just about to tell Mr. Stirmer and Mr. Kingston something which may be of interest to you, too. It really concerns us all.

"This happened about ten years ago, when I was first mate aboard the Vortex—you probably recall her, Kingston—at a time we were docking in. Sharanee. I was off duty at the time, carrying on a sonewhat illicit conversation with one of the attendants. As you know, they aren't supposed to have visitors while on duty.

"There was a ship due in soon—I forget what her name was—and she was late. The lad at the station and I were speculating as to what might have happened to her. In those days, you know, spaceflight was nowhere as near as regular and safe as it is now—and you know how safe it is now.

"She came in eventually. But they wouldn't let her land. The officials were adamant about it. She could discharge cargo, but no one would be permitted to get off, It was only after nearly an hour's arguing that they finally agreed to let her droo cargo.

part of it, though No the thing that stuck in my

the thing that stuck in my memory was that the Martians were afraid of something on that ship. It wasn't a case of possible disease, or the like. No, it was definitely some person—or thing—aboard. I never found out precisely what it was

"But can you get the significance of it? A Martian afraid of someone on an Earth ship, carrying only Earthmen? That is utterly unprecedented. We know that the whole history of Earth-Mars relations has shown that the Martians have a particular species of contempt for Terrestrials, that Earthmen have never been able to best the Martians in any sort of bargain or wring any kind of advantages out of them. And Lord knows they tried hard enough at first.

"The Martians tolerate us, that is all. Today, we are strong enough so that I think they would hesitate to bring about bad relations, but still that supercilious attitude exists." He bent forward, his voice dropping.

"I saw one of the Martian officials shortly after the incident had closed, and the ship had been turned away. The creature was beside itself in pure, undiluted terror. And it uttered some words I've never been able to check since. No Martian records list them; no Martians will talk about the subject. I tried to bring it upgracefully with a couple of officials with whom I was on reasonably good terms, and they immediately grew sullen

and changed the subject, making it clear that I was not to refer to it again.

"That term of which I speak may be, a phrase, or a single word. "A-awhm-bee." The folicial I told you about kept repeating 'a-wahm-bee!" awahm-bee!" awahm-bee!" awahm-bee!" awahm-bee!" was and over until the creature observed that I was in hearing distance and shut up quickly.

"One thing more I found out about the affair. That the ship had picked up a passenger between Earth and Mars—at Lanisar Station I think it was. I got a description of the man and put it down in my journal —where I wrote out a careful record of as much as I could find of the incident. If fits our friend Strachey very well."

"Didn't you find out what the name of the ship in question was, sir?" asked Kingston.

"I did, but unfortunately my journal was damaged about two years ago, and I have only a page or so salvaged from it. I came across the remains of it this morning, which is what brought this to mind."

"Speaking of Strachey, sir,

I think he's coming this way now" broke in Stirmer.

"Wait!" cried Mona. "Wait! I know!"

"You know what?"

"I know! I mean—it's not quite clear—but let me speak to him first."

There was a moment of silence, then Strachey opened the door and came into the room quietly. Mona Holloway stood up, her eyes wide as she faced him.

"Strachey!" she almost shouted. "A-wahm-bee!"

## V

HE THING that was Strachey smiled slightly as its eyes roved over the four in the room. They stopped at Mona. The silence was becoming unbearable, yet none dared to speak until Strachey—it—had made some sort of reply. When he spoke, the accent, heretofore somewhat strange, became almost ghastly—yet it was no more pronounced than it had ever been. But now, they knew....

"Still level-headed, Miss Holloway?" Her chin went up. "As levelheaded as any human being can be in the presence of a thing like you."

Strachey did not seem displeased. "It's just as well, I think, that this form be retained. The shock of seeing me in my true form would shortcircuit your brains and stop your hearts. And it is rather pointless for me to take on other forms. I am not what you would call a showman."

"But—you were something else before, weren't you?" insisted Mona.

It nodded. "Yes. I was the jewel. And the extra chair. And the missing container of fuel. You were right, Captain. You did not see *Strachey* board the lifeboat, but you did see me."

"What manner of being are you," asked Vernard in awed voice. "Do you actually take these forms, or is it an illusion—do you just make us think you are a jewel or a chair?"

"It's simpler to make the actual change. You see, Vernard, the a-wahm-bee is capable of taking any material form whatsoever. We are the superchameleons of the cosmos.

What our own, original form is, I do not know—perhaps some super-amoeboid—who can tell? I, for example, am never conscious of my material form at all; my 'brain' is inconceivably complex to you. Suffice to say that, no matter what form I take, my involuntary brain-centers take care of my remaining in that form and acting true to that form until, voluntarily, I alter it."

"Yours is an old race, isn't it," whispered Mona. "Older than Earth itself perhaps. But men knew of you, too, in the days before the glaciers and that memory lingered—maybe that is why I wasn't afraid of you."

"But what does it want of us?" burst out Kingston.

Strachey's face bore a sad look upon it. "I need your help." was the answer. "Wait..." the being waved away questions that sprang to their lips immediately. "Let me tell you more. Perhaps that will answer your questions and save time There is not a great deal of time to be wasted now.

"THE A-WAHM-BEE antedate your universe it-

self. Ours is a culture inconceivable to you, one which, even after countless billions of years, is still in its early maturity. It is very difficult for me to explain this to you, yet I shall have to warp the facts to suit an analogy which you would grasp at once.

"Conceive of cities in a distant locus in the cosmos which is the center of our life and culture. Conceive of a civilization there, one steeped in traditions and customs of all-kind. Conceive of a race fully aware of itself, having purged itself of all the grosser aspects of its evolution and come of age. There you have the a-wahmbee.

"Ours is the ability to takeany material form we desire, to imitate that material form so perfectly that we undergo any changes which it would undergo—respond in every way as it would respond. Were I, for example, to take the form of a tree upon Earth, I would grow, expand, and be affected as any other tree. Perhaps before it was to my convenience to alter my form again, the tree might be destroyed or altered radically through its being hewn down and cut into various sections. Do not digress in your thoughts by wondering why I would do this. Please merely accept my word that, for reasons beyond human motivation, I might, Accept that I have done so in the past.

If HAVE said we are steeped in traditions. That is so. Among our race, it is a tradition and a highwater mark of ethics that never must we act contrary to the nature or natural reactions of the material form we are imitating. And a second and equally powerful tradition is that never must we alter our material form when any living, sentient creature is present, or when so doing might arouse undue suspicion in the mind of any such creature.

"But, even as yourselves, individual a-wahm-bee are not as nearly perfect as their, ideals. Your race, as have nearly every other sentient race in the cosmos, have come in contact with individual a-wahm-bee who cannot be said to have been worthy of the race-ideal." His voice dropped. "I am one of these." "You mean," broke in Vernard. "that you are an outcast?"

"An exile. I rebelled against what—at my precocious age— I considered the tyranny of my land and ran away."

Mona caught her breath sharply. "And now you're sorry,' You want to go home."

The being that was Strachey nodded. "Yes," it answered simply.

"AS WITH many other runaways," said the creature, "my education was incomplete. I've learned many things, of course, but I still do not know how to get what I want simply. A fully school a-wahm-bee could have solved the problem without any trouble, relatively, at all."

"But how do we fit in?"

Strachey raised his hands in a gesture of despair. "How can I explain to you so you would comprehend? I cannot, not in the little time there is left. You are but one of many factors I need the sum of which will bring the result desired. We are now in the right spatial locus. Yours are the types of brains needed..."

"What are you driving at?" rasped Stirmer. "Are we to be sacrificed..."

"No, you will not be harmed. I shall administer a sort of drug to you which will enormously stimulate your thought-waves, then direct your thoughts as I require. When you recover, you will be in need of considerable sleep, but that is all. I shall blot out of your memories, of course, anything which might, by its very presence, harm you."

"And why should we help you?" growled Stirmer. "Didn't you drive the poor lads aboard the Moth off their heads so that they mutinied and put us adrift in space? And how do we know you're telling the truth? How do we know your drug is harmless?"

STRACHEY grimaced. "I have done many ill things, nor was the affair of the Moth the least of them. Yet, that was not entirely my doing, for I had no intent of causing a mutiny."

"There is something about the make-up of my kind which stirs deep-hidden memories and latent impulses in the minds of intelligent oxygen - breathers. That is why everyone aboard the Moth had the feeling of unrest—in the case of the first mate, and most of the crew, it brought back a primal desire to be free and nomadic, and this they expressed in the only way they were able.

"As I said, it was not my intent to cause a mutiny, but once I realized what would happen, I saw that it would aid my plans rather than obstruct them. My only real concern was that Miss Holloway, Captain Vernard, and one or two others came to no harm. I needed you."

He paused, looking from one of human to another. "As to Stirmer's or the r questions, there's no time to go into the matter more deeply. You four are going to assist me. I shall not be frustrated now. You will merely have to make my words for it that you won't be hurt."

"Like hell we will!" snapped Stirmer, grasping a heavy metal weight in his hand. Lightning-like he hefted it true so that it struck Strachey between the eyes with an audible sound of bone shattering. The being halted for an instant, then slumped to the floor.

Mona Holloway screamed.
"You're killed him! You're
killed him!"

"No," came the familiar voice of the a-wahm-bee from a point between the floor and the ceiling, "I am not killed." Abruptly the limp form of Strachey vanished, and, instead, there was the jewel which Mona had lost twice. "Do not try to resist the

vapor," whispered the voice, "and no harm will come to you. You Mona Holloway. You believe me, don't you?"

"Yes," she replied. "Yes, I believe you."

From the depths of the jewel a mist was flowing out, mist which whirled in strange ring-lets and shapes, filling the small proom. It seemed to be wisping into their brains, caressing with light-feeling tendrils, but before they could struggle against the invasion of their beings, the universe had slipped away from them.

MONA CAME back to consciousness with a realiza-

tion that everything was back to normal. The familiar form of Vernard was bending over her.

"Are you all right, Miss Holloway?"

"Yes." She sat up suddenly. "Did—he—get home safely?"

"Did—he—get home safely?"

"Who?"

Suddenly she realized that

the being had done even as he promised...removed their memories. It did not occur to her to wonder, then or later, why she alone had any clear recollection of the past hours and their events. By careful questioning, she obtained from Vernard the story that the Moth had been wrecked in a meteor storm which hit them at, a time their screens were not functioning; that only she, the Captain, and two members of the crews were survivors. They had put out from the ship in a small lifeboat, without sufficient fuel, but had been picked up by a rescue cruiser before their situation became serious.

She did not bother to point out what she knew to be discrepancies in the captain's story. It would pass the official eve: that was enough.

Quietly she lay back, exploring her brain for impressions.
What had happened after the
mist from the jewel had swept
away her consciousness? She
knew that a great mass of
strange matter plunging
through space was an important item in it. A mass undetettable to instruments devised
by humans, pftiless, obliteratiing anything in its path.

She knew, further, that this matter would act strangely under the proper catalyst, would explode dimensionally so that the delicate fabric of space itself would be sundered for the moment, and a tunnel to the farthest reaches of space-time could be made in the aftermath. And the catalyst—what part did the thought-vibrations of four drugged humans have to do with it? A great deal that was all she knew.

Her thoughts were interrupted by the words of Vernard. "We're approaching Sharanee, Miss Holloway. It has been a difficult passage."

"Yes," she smiled suddenly, "yes. Passage to Sharanee."

Like another being somewhere in the deeps of the cosmos, they were nearing the end

of their journey.

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## Featuring Simon Ark, Private Rye, in

THE CASE OF THE RAGGED RAPIST ...... Edward D. Hoch
The girls all described the same figure — a ranged man wearing
frightened. One surl manied in a public spot. One-ciril raped. One
girl killed, but not harmed otherwise. Was there a pattern — and
was my ex-wife, Shelly on the rapie's int?

\* \* don't miss the January issue of



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# electronic landslide

I DON'T KNOW exactly who in the Fifth Ward it was who got the idea in the first place. You know how it is when a bunch of ward-heelers get together and start shooting the breeze about how to nail down the vote in this precinct, or how to pad out the registration lists in that one.

by CLYDE

HOSTETTER

Politics don't change much
—or, I guess I should say now,
they didn't—no matter what
kind of new gadgets the scientific guys came up with. Politics is just human nature, and
that hasn't changed much in
the last couple thousand years,
I guess.

The idea was such as to make any ward-heeler jump for joy. How could it miss? They say even back in the early days with them log compartments, I think they called them, you could get the vote you needed by passing around a few bucks to the right people and keeping a jug handy on election day. But things sure changed fast around here, and as I say I don't know exactly who it was that started it.

Maybe it was Brains Mc-Gillicuddy; he was always coming up with some screwball idea. He was the one who got the idea of breaking into the voting computation center the night before the big election in 2374, and rewiring the circuits to give the Party a nice comfortable majority in the sheriff's race.

It would have worked, too, except that the Opposition got the same idea that year, too; and after that all-out fist fight in the alley nobody ever did make it into the computation center.

enter.

But Brains never says die.

"You know," he comments

thoughtfully this particular night in the back room at Fifth Ward headquarters, "what we need to win this next election for mayor is more voters."

"DEAL THE cards." says Knuckles Sparoni. "I come to that conclusion about twenny years ago. Who do you think has been out all day getting names off crematory urns to beef up the registration lists?"

"What's the pitch. Brains?" I ask. I am always looking out for a new idea because the Oposition in my precinct is very active, and have all the crema-

tory urns registered on their side already. Unless I can come up with something new before the registration books close, I am going to lose the precinct for Candidate Strathmore, and then where will I be?"

"It's like I say," repeats Brains. "We need more voters. We already have 99% of the Fifth Ward registered, and the Telepulse survey still gives the Opposition a 15% edge. We can't put any more ringers on the registration books, or the Opposition is bound to squawk—even though they are doing the same thing. We will just have to get some more voters someolace."

"Not in the Fifth Ward," says Greasy-Palm Harrington, laying down a full house, "There ain't another vote to be had."

Now that I think back on it, it was Brains that came up with the idea. "Two-Count," he says to me. "do you know your Constitution?"

"Of course." I say, bristling somewhat. especially since I was planning to win with three of a kind. "Which Amendment do you want me to quote—the Fifth or the Fifteenth?" "No, I mean the real Constitution," says Brains. "The one those guys wrote back when there weren't no voting machines or anything,"

"You got me there, Brains," I admit. "I am just a politician, not one of them social scientists."

"Well, boys," says Brains, leaning back in his chair, "I have been doing a little research and I have found a way to comer at least five thousand more votes for the Party in this Ward alone, and more than enough in the city for Candidate Strathmore to win in a walk."

THIS IS enough to stop the poker game entirely, Greasy-Palm beaming with joy at the prospect, since he has the biggest pile of chips at this point.

"We'll never get away with it," says Knuckles Sparoni. "There ain't that many names on all the crematory urns in the Ward."

"The plan I have," says Brains, flicking the ash from his cancer-free cigar, "is legal and foolproof. The Opposition

will never know what hit them."

It develops that Brains has a lawyer friend at City Hall, and they have been doing a little spadework in the legal department.

"What is a voter?" asks Brains, real cagey-like, as the discussion continues.

"Somebody who votes, and enough of these dumb questions," says Knuckles, who also has lost a few pots to Greasy-Palm during the course of the venning. He begins rubbling his knuckles, and this is a bad sign as everyone knows—especially dishonest citizens who are bought but do not stay bought.

"Easy does it," says Brains hastily, slipping on his contact lenses in self-defense. "That was a rhetorical question, as they say. Yes, a voter is some-body who votes. But first of all he is a citizen; secondly he is over eighteen years of age; and thirdly he is smart enough to register and pull the lever on a voting machine. Right?"

KNUCKLES is rubbing his fist faster now, so Brains does not wait for an answer, "My point," he says, "is this. What about all those robots in the McGillivry electronics assembly plant down in the southwest corner of the Ward? And what about those robots in the automation design center that is owned by our good friend Harper? They certainly are smart enough to register and vote, if Two-Count here is smart enough...

(I ignore this libelous statement in the interests of Party harmony.)

"...and most of them are more than 18 years old, if you overlook the replacement parts."

"How can they be citizens, though? They're just robots," says Greasy-Palm, although I can see from the gleam in his eye that he is beginning to get ideas.

"Look at the Fifteenth Amendment," says Brains. "Read it off to the boys, Two-Count," he tells me.

This is a cinch. It is one of my favorite ways of getting voters steamed up with patriotism before they go in to vote the straight ticket.

"'The right of citizens to vote shall not be denied or

abridged on account of race, color or previous condition of servitude'," I repeat without a mistake.

"Exactly," says Brains.
"And this means that we should
not discriminate against a robot
just because it happens to be a
member of the robot race, instead of the human race, and is
owned by a manufacturing
company. It is our duty," he
continues solemnly, "to see that
these robots get their rights.

"Especially," he adds with a wink. "since McGillivry and Harper are both good Party men, and will see that every robot of theirs votes the right way."

IT SEEMS too good to be true. I can see five thousand robots filing into the Fifth Ward voting booths with their magnetic tapes all adjusted to vote for Candidate Strathmore, and I can see myself getting a cozy appointment out of the deal—perhaps a job as city public relations representative on Venus, with my own hand-picked secretary.

"There must be a catch somewhere," says Greasy-Palm, shaking his head. "Getting votes without paying for them sounds dishonest, somehow. What if someone says these robots don't have the right to vote?"

"This is all taken care of already," says Brains, slipping off his contact lenses now that Knuckles has stopped doing you know what, "The Election Commissioner is a good Party man, and he is prepared to okay the robot vote if there is any question. His ruling may be appealed by the Opposition but it will take months-maybe vears-to get it through all the courts. In the meantime, Candidate Strathmore has been elected Mayor by an overwhelming majority. In six months we can cut ourselves in for enough of the city revenues to retire "

"There must be a million robots in the city." I say.

"More than a million," Brains replies. "To be exact, 1,280,570. And, what is more important, Party members own 62% of them, enough to swing any election."

"The robot vote would be more than the human vote," says Greasy-Palm excitedly. "And we won't have to pay a single one to vote the straight ticket."

"Exactly," says Brains. "Of course, we may have to take care of their owners after our candidate is elected. This should not be too much of a problem, however."

WELL, I GUESS you know what happened after that. We got our Party robots streaming in to register; the Opposition squawked; and the Election Commissioner ruled like Brains said he would. Then the Opposition just about went crazy trying to get their robots all registered before the books

They were licked before they started, though, Just like Brains had said—more than 62% of the robots in town were owned by Party members.

closed.

Of course, we had some complaints from some of the voters—especially the independent ones—about the robot vote but you get used to that kind of thing. And, after all, it was in the Constitution and who was going to argue with the Constitution?

You should have seen the polls on election day. Squads of robots rolled out of the factories and up to the voting booths, five abreast; it was just like clockwork.

When the polls were ready to declose. I still was trying to decide whether I wanted a blonde or a brunette secretary on Venus. I bought a newspaper and went back to the Fifth Ward clubhouse to look over the "Situation Wanted—Female" ads.

The clubhouse was deserted. Everybody was at downtown headquarters getting ready for the big victory celebration.

I MUST HAVE dozed off, I guess, because suddenly I hear the slam of the clubhouse door and Brains comes stalking in with five-alarm trouble written all over his face.

"What's the matter, Brains? Didn't we win by a big enough majority?"

"Win?" he says, kicking a chair across the room. "We lost—by half a million votes."

This waked me up fast.
"You mean the new mayor is
from the Opposition?"

"The Opposition? Not on your life," says Brains, kicking two more chairs, "It turns out you can't override a robot's basic logic circuits after all. Every single robot from both parties went to the polls and voted for the third-party reform candidate. Our new mayor is some incorruptible electronic en g in eer named Arthur P. Parkinson, who was running on a platform of no graft and more efficiency in government. He got every robot vote in town."

It still wouldn't have been completely hopeless except that when the robot vote ruling was appealed, the Supreme Court ruled that the Election Commissioner was right.

So now the robots have the vote, and what is a practical politician like me going to do? My specialty is human nature, and I can't get to first base when the majority of the voters are going to pick the best man, no matter how you appeal to their common sense.

Maybe it's just as well. I understand our public relations representative on Venus has a dictating machine now instead of a secretary. More efficient, the voters say, but what would a robot know about secretaries?



# DOWN TO EARTH

A SYOU know, most readers who write in do not vote upon the science articles, nor do we usually list them along with the stories when we give you the reckoning. However, science fiction is noted for precedent-breaking, and Dr. Isaac Asimov cannot be described as "usual". Every voting coupon we received, every letter, every postcard relating to the August issue, commented upon his article. And everyone put it either in its place or gave it an "A". Some tied it for first place—but the rating is then the same.

	, the reckoning for August comes out thi	s way:	
	Point of View: The Moon (Asimov)	(less	than 1)
2.	New Model Spaceman (Thomas)		1.32
3.	Anack (Hardwick)		3.00
4.	Baby (Harris)		3.64
5.	Safety Valve (Aldiss)		4.32
	, ,		

With the October issue, things got back to "normal"; and Dr. Gluck's article on "Space Law" would come about in the middle were it rated along with the fiction. Many readers said they would have liked to have seen more of it. Trouble is— there isn't too much to tell, just yet.

The fiction in the October issue came out thus:	
1. The World He Left Behind (Silverberg)	2.37
2. A is for Automation (Wilhelm)	2.87
3. Tomorrow's Brothers (Clinton, Ir.)	3.37

4. The Amazing Half-Million B.T.U. Autocrat	
(Hafstrom)	3.87
5. The Creator (Rocklynne)	4.87
6. The Glorious Gestalt (Langan)	5.85

Except for one voter who placed it about midpoint, the Rocklynne story takes some sort of record for being controversial—the rating was either "A" or "X". Most puzzling was a ballot whereon the reader wrote that he didn't like fantasy—but gave "The Creator" the "A" rating.

### FEATURE FAN

Dear RAWL:

First the article, "Space Law" was interesting, but nothing spectacular. As for the "Race into Space" series. I thought they were among the most intelligent articles ever printed. None of this condescending pap that usually passes for science-articles (such as the garbage printed by Space Travel & Madge just before they folded) were these. They were satisfying, and I would like to see more of the same. While on articles, I also like Asimov's "Point of View" series-please keep them up also. Other articles that I found interesting were "Yesterday's World of Tomorrow" and the "Science Fiction Almanac". It was because of these articles, and the other features and fan material that you ran, that I started to buy your magazines. Usually, I would read everyhing but the fiction on the day I bought the magazine, and then regretfully put it away. An exception was when you ran the DeCamserial—then I read THAT first, (How I wish he hadn't left sif & fantasy for historicals, but, I suppose, that's the economics of the game.) Anyhow, the features have been getting skimpier & skimpier of recent.

But what happened to the Oct. '59 Future? It was almost as bad as Sept. SFS was good. Here are my ratings:

1—The World He Left Behind (Apparently, I'm partial to Silverberg, One sentence prevented me from tacking an 'A" onto the "I"? jpa, 35, right center— "Perhaps an hour had passed for that hamster in those seconds, but how were

they to know?" If time passed much slower on World X, then the hamster would have experienced only a few milliseconds while there, and would have been gone before the inhabitants could have seen it. After all, they saw over a period of a few hours what took 6 weeks to happen on Earth. This sentence so confused me while I was reading the story, that it ruined the whole story for me. It was only later, after I had finished the whole magazine, that I realized just where the error was. If this story is ever anthologised-which it deserves to be -I hope that the error is corrected. Another thing I'm wondering about: what would happen to an animal whose tail experienced one second while its head experienced one millisecond, especially to the veins near the transition point? And why didn't the inhabitants look like statues thru the telescope?)

2-The Amazing Half-Million BTU Autocrat. (Cute, and oh how true!)

3—A Is For Automation (Fair)

4—The Glorious Gestalt (Not too good)

5X—Tomorrow's Brothers (An interesting idea, but very poorly handled.)

6X—The Creator (I have no objections to reprints as such, but I despised this story. If you can't find anything better in your old files, DON'T REPRINT!) —

EDMUND R. MESKYS, 723 45 St., Brooklyn 20, New York

But, Edmund, what do I say to those who wrote in saying that "The Creator" was as good an argument for reprinting some of the older stories as one could desire? Some had read it before; most had not. As the ratings show, the opposition had it-but by a very close margin. And all of them didn't explain whether they were voting against the story, or against reprints. I assumed that they were voting against the story, though, as a very clear majority has stated that they have nothing against reprints, as such, particularly when they're that far back, Well...that's it; if you haven't read the story before (and the odds are in favor that you haven't when it's over fifteen years old) then the fact that it may have been published before is really irrelevant.

### REBUTTAL

Dear Mr. Lowndes:

As you know, Mr. Henderson sent both of us a copy of the letter you published. I answered him immediately, of course. I'll try to recall now, after these several months— I kept no copy—the essence of my remarks.

I agreed that even though your original argument had required my use of such a finite term as "change" when referring to the infinite, he was correct in asserting that the term was not used in a truly valid way, I said that I had probably erred in not pointing out this fallacy in your concept of an "Omnicompetent Creator" when I criticized your other errors. However, I then went on to say that the real point of my remarks was to show that God is not predictable. I believe I quoted a line of mine to that effect from the June issue: "...as the only restrictions upon God are those He places upon Himself, we

cannot know what His course may ultimately be." We can make no really meaningful statements about the changeability of God-but we do know that He must be absolutely unpredictable to us. His lesser creation. It has been my assertion all along that because an omnipotent agency is not predictable, it cannot be allowed into the logic that lies behind the scientific method: it is obvious nothing can be achieved by an experiment if one grants the possibility that the results may differ from one time to the next-and the inability to predict God's behavior would create that possibility. The difference between the scientific philosophy and the religious philosophy, then, is that the former asserts that events are-ultimatelypredictable, and the latter states that events are completely unpredictable, or rather, predictable only by God Himself. This is what I have based my whole argument on

What on Earth can you object to there, Mr. Lowndes?

Mr. Graetz' statement that I must "really" define natural law before I can separate science fiction and fantasy in the way I have is false, of course. You don't have to prove the towns are really there to show that one man differs from another. To indicate the differences between philosophies, you don't have to prove that their conclusions are valid. The conclusion that there is some great, inalterable principle governing the behavior of the universe (which will serve as my operational definition of "natural law") follows directly from the assumptions that the universe exists and that it is possible to predict its behavior. Since neither of the assumptions can be proven or disproven. I would be foolish to claim that this conclusion is valid-and I have not made such a claim, I have said, though, that the conclusion provides the base for the scientific philosophy, one of the two most nearly perfect metaphysical philosophies vet devised-and the one upon which science fiction itself is based. Inadequate as this philosophy and its companion, the religious philosophy, are, they provide the only maps we have to the unknown territory of reality.

I wish the gentleman would test my definitions of science, fiction and fantasy against the stories he mentions. He might be a little surprised.

Granting that Isidore of Seville made the remarks Alan C. Bates attributes to him, it would appear that Mr. Bates' interpretation is faulty. It "dialectical argument analysis" can supply happenings that are really possible, I don't think anyone but Mr. Bates would claim they were science fiction: Is it really possible to go back in time, or even just travel to Mars, Mr. Bates? It is? Please prove it through dialectical argument and analysis. The good bishop's definition would actually seem to apply to general, nonimaginative, fiction. And, going on to his "impossible happenings" definition, I rather fail to see how anything-even the content of fables-can be proven impossible, since we don't know in any logical, rational, understandable, provable way how the universe came into being, what it is presently doing, and where it is going. The best we can do is say that some things seem

pretty darned unlikely. And that's not the same thing. Not the same thing at all...

Additionally, Mr. Lowndes, I wish you'd re-examine my previous letters. In your reply to my third letter you suggest that I have relied upon authority for my assertions, and you give the impression that I have cited these authorities at greater length than good argument warrants. I believe you will find that I have cited only a single definition (of "super-natural") from Merriam-Webster's Collegiate Dictionary, I cite no other source. I rely on

no other authority. I mentioned Spinoza, but since I disagreed to some extent with his logic, I do not consider this a "citing of authority" in the sense you appear to emply the term.

Too, although St. Augustine's criticisms of pantheism in \*The City of God were probably effective in his own era, the thousand years of time and thought that lay between him and Benedict Spinoza emasculated his argument. The pantheism of St. Augustine's time \*Tran Page\*|

[Turn Page]

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was no more developed and no more logical than the polytheism he brilliantly exposes to ridicule in his wonderfully funny chapter on "the offices of the Gods," but the pantheism of Spinoza is as logical and coherent as any monotheistic religion. This is not to say that I support or believe in Spinoza's philosophynor is it to say that I do not: I am simply reporting the . consequences of logical thought.

RICHARD KYLE, Box 193, Joshua Tree, California

There are times when I feel I grow more stupid every day—and the day I typed my comments on your last letter, I must have been a year ahead of myself! For one thing, I committed what I committed what I

consider to be a cardinal sin in argument-commenting on books I haven't read. I hadn't read Spinoza, but blandly assumed from what you stated that his metaphysical argument vis "God is the Universe" was a species of pantheism accessible to the arguments of St. Augustine against pantheism.

Worse, I failed to put my point clearly, which was: my objections to your definitions of the basic difference between science fiction and fantasy actually spring from my own personal religious beliefs-which might be shared with a few others who read your letters, but which almost certainly are not shared by a majority. And therefore, since I could see no objections to the logic with which you supported your statements, I wanted to make it clear that I felt you had presented your case convincingly-barring a conflict with personal religious beliefs, as in my own case.

To explore the details adequately, as we seem to agree, would be of interest to you and me, and perhaps a few others-but not to most readers: and this magazine

[Turn Page]

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just wasn't the place for this sort of discussion.

My statement, then, outside of the ill-advised comment on the side-issue of Spinoza, was not intended as a refutation, but an acknowledgment that you were ahead in the argument, and that unfortunately we couldn't continue it here.

On basic assumptions, authorities, and definitions: I was referring in the first instance to fundamental private belief (my point A). Example: your two definitions, to my reading, necessitate two alternatives - neither of which I can accept. But I could not prove you wrong within the space limitations of this discussion. To set up my point A, and then demonstrate where my disagreement came would take many [Turn To Page 126]

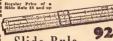


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and would pages: even then "proof" only to someone who also accepted my "point A"-assuming I didn't stumble over myself in the arguments derived from point A.

Referring in the second instance to "definitions" (and here I blundered badly in expressing myself) I meant "definitions sumed to be mutually accepted" - a very risky thing, as one can see from reading the daily papers on discussions with the Soviets, etc. Your two definitions. however, required further definitions (of the terms within them) where mutual agreement doesn't seem to exist. (Ordinarily, that Merriam-Webster definition "supernatural" would do-in this instance, it strikes

me as being breath-

### DOWN TO EARTH

takingly inadequate, due to my point A.) On authorities: An even worse pratfall: I certainly did not intend to imply that you had been "citing authorities" unduly. But, again, the unspoken assumptions, semantic difficulties, etc. -nothing venal here: in fact, you have shown exemplary care in this matter. But behind all this we eventually come to matters which are axioms for us-and it was my deduction that our axioms conflict

I must, however, answer your direct question on the unpredictability of God—sin ce you asked me what I can possibly object to. To one who holds the faith that I hold, God—while unpredictable in countless ways—is not absolutely until Turn Perel

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predictable: divine revelation has been given us as a means of predicting God's viewpoint and actions on particular matters of vital importance to us; accepting this revelation, I likewise accept theology as a science-as much so as medicine. (Without going into the endless, and often bloody. argument as to which is true and which is false or erroneous theology. this means that the correct use of theology enables us to predict God's attitude and action in certain matters. In some areas, this will be as accurate as the use of chemistry-an exact science-in medicine: in other areas, this will be akin to the art of medicine. where there is a certain percentage of accuracy, but where lack knowledge of all

[Turn To Page 130]



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the relevant factors in an individual case results in inaccurate predictions from certain doctors in certain instances.) To sum it up; God, while not generally predictable from the viewpoint of man, is not however absolutely unpredictable.

Thus I would say that a story dealing with extrapolation on material science and theology, where the theological element is based upon predictable action of God, would be classifiable as science fiction. (Vide: "A Case of Conscience".) A story dealing with imaginary gods, or with

theological speculation, etc., would come under the heading of fantasy—whatever the soundness of extrapolation on material science. (I would say —but I'm not so stupid as to assume that many others would agree; or that among those who did, we'd agree on whether story X should therefore be science fiction or fantasy!)

And now I shall retire in the hope that I've cleared up any misunderstandings which resulted in unfairness to anyone, and that I haven't created more new confusion.

### \* Readers' Preference Connon

Rate items from 1 to 5 in order of preference — however: ties are pertectly okay, (It you thought a story really outstanding, rate it "A"; if you thought a story really poor, rate it "X".)

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